JPRS 77477

27 February 1981

· · · FBIS · 40TH YEAR · 1941-81 · · ·

USSR Report

ENERGY

No. 49

FBIS FOREIGN BROADCAST INFORMATION SERVICE

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service (NTIS), Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semimonthly by the NTIS, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Indexes to this report (by keyword, author, personal names, title and series) are available through Bell & Howell, Old Mansfield Road, Wooster, Ohio, 44691.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

Soviet books and journal articles displaying a copyright notice are reproduced and sold by NTIS with permission of the copyright agency of the Soviet Union. Permission for further reproduction must be obtained from copyright owner.

FOREIGN BROADCAST INFORMATION SERVICE
P. O. Box 2604
Washington, D. C. 20013

26 February 1981

NOTE FROM THE DIRECTOR, FBIS:

Forty years ago, the U.S. Government inaugurated a new service to monitor foreign public broadcasts. A few years later a similar group was established to exploit the foreign press. From the merger of these organizations evolved the present-day FBIS. Our constant goal throughout has been to provide our readers with rapid, accurate, and comprehensive reporting from the public media worldwide.

On behalf of all of us in FBIS I wish to express appreciation to our readers who have guided our efforts throughout the years.

JPRS 77477

27 February 1981

USSR REPORT

ENERGY

No. 49

CONTENTS

ELECTRIC POWER

Crimean Experimental Solar Electric Power Station
(P. Garadzha; SOTSIALISTICHESKAYA INDUSTRIYA, 5 Nov 80)....... 1

Magnitogorsk-Beketovo Electric Power Transmission Line Completed
(I. Payvin; SOTSIALISTICHESKAYA INDUSTRIYA, 31 Oct 80)........ 3

Waste of Electric Power in Stavropol'skiy Kray
(A. Fedosyuk; PRAVDA, 7 Dec 80)............................... 5

FUELS

Certain Problems in Oil Production
(A.A. Dzhavadyan, Ya.Ya. Shkadov; NEFTYANOYE KHOZYAYSTVO, No 1, 1981)... 8

Problems of Increasing Turkmen Petroleum, Gas Production
(R. Allakhverdiyev; TURKMENSKAYA ISKRA, 7 Dec 80)............. 15

Fuel Theft Problems in Ukraine Surveyed
(SIL'S'KI VISTI, various dates)............................... 18

Theft Problems Cited, by A. Zhosan
Follow-up Response

Construction Progress at Mazheykyay Petroleum Refinery
(A. Brazauskas; SOVETSKAYA LITVA, 18 Nov 80).................. 21

Support for Shale Fuel Utilization Sought
(E. Chekalyuk; PRAVDA UKRAINY, 5 Dec 80)...................... 26

Waste of Natural Gas at Lithuanian Enterprises
(N. Shum, S. Ryntsevich; SOVETSKAYA LITVA, 30 Nov 80)........ 28

Central Asian Coal Industry Seeks Expansion
(PRAVDA, 14 Dec 80).. 30

Drilling Additional Wells Into Multiple Producing Zone Reservoirs
(R.N. Diyashev; NEFTYANOYE KHOZYAYSTVO, No 1, 1981).......... 33

Transition to Multiple Use of Peat Urged
(I. Lishtvan; SOVETSKAYA BELORUSSIYA, 6 Dec 80).............. 44

Coal Miners Want More Support
(N. Mokrishchev, I. Frolov; TRUD, 18 Jan 81)................. 48

Briefs

Wages Streamlined 50
Competition Rules Questioned 50
Wage Differences Disputed 50

CRIMEAN EXPERIMENTAL SOLAR ELECTRIC POWER STATION

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 5 Nov 80 p 4

/Article by P. Garadzha (Yalta): "A Solar Electric Power Station Is Being Born"/

/Text/ An experimental solar electric power station is being built in the region of the village of Mysovoye of Leninskiy Rayon of the Crimea.

This site was chosen on purpose: there is a construction base. The fact that a town of construction workers is arising at the same time is also of great importance. And Aktashskoye Lake is nearby, so there will be sufficient water for the needs of the experimental solar electric power station.

At present in some developed capitalist countries solar electric power stations of this type--the tower type--with a capacity of 1 to 10 MW are being built. Our firstling is designed for 5 MW. But after the 5-MW solar electric power station gives a commercial current and its operating potentials are determined, it is planned to start the construction of a larger solar electric power station. Its capacity is estimated today to be approximately 200-300 MW. This is already a substantial demand for the extensive use of solar energy. And the station will be built here, in the region of Mysovoye.

The layout of the experimental solar electric power station is as follows. A metal tower 70 m high is set up in the center of a field of heliostats (concave mirrors), which by means of automatic equipment rotate to follow the sun. The reflected rays are focused on the heating surface of the steam generator--the solar boiler mounted on the tower. The temperature in it reaches 300°. The water vaporizes, and the steam is fed under pressure through pipes to the equipment room, to the turbines.

But what do you do at night or on cloudy days?

"The problem of storage is only one of the ones we were faced with during the work," says Chief Project Engineer Otto Arturovich Vindberg. "Sufficiently large tanks which will store reserves of hot water and steam which are necessary for the operation of the turbines at unfavorable times will be built at the solar electric power station."

Along with the Riga Department of the All-Union State Institute for the Planning of Electrical Equipment for Heat Engineering Structures (the general designer) the State Scientific Research Institute of Power Engineering imeni G. M. Krzhizhanovskiy, the All-Union Scientific Research Institute of Thermotechnicals imeni F. E. Dzerzhinskiy, the All-Union Scientific Research Institute of Planning of Hydroprojects imeni S. Ya. Zhuk and other organizations are taking a most active part in the development of the design of a more powerful station.

The dimensions of the solar electric power station will be impressive. The tower will rise to a height of 250 m. So a "small needle" of its own will soon appear in the Crimea. And even four whole ones. The station will consist of four modules with a capacity of 50 to 80 MW each. Only there will be no observation platforms and restaurants on the towers.

Around each "needle" the heliostats will be arranged on an area of 9 km^2. There will be 26,000 heliostats measuring 5 X 5 m.

"An automatic device will adjust the movement of each mirror, which the wind, rain and other extraneous factors will influence," explained Yevgeniy Fedorovich Shevchenko, general director of Krymenergo. "It will see to it that the heliostats do not get off 'target,' that the sun rays hit one point."

It has been decided to begin the construction of the experimental 5-MW solar electric power station this year. And then it will be the turn of a 200-MW or a 300-MW solar electric power station.

7807
CSO: 1822

ELECTRIC POWER

MAGNITOGORSK-BEKETOVO ELECTRIC POWER TRANSMISSION LINE COMPLETED

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 31 Oct 80 p 1

/Article by I. Payvin (Ufa): "The Power Bridge Over the Urals"/

> /Text/ The last pylon has been erected and the installation of the 500-kV electric power transmission line from Magnitogorsk to the terminal point--the junction substation of Beketovo--has been completed.

The straight cleared strip crosses the steep ridges and spurs of mountains, cuts its way into swamps and hides in dark ravines. The heavy, hardly sagging wires appear dull under the pale autumn sun, the rays are broken up on the insulator chains: the 500-kV electric power transmission line strides over the Ural taiga.

Several days ago at the installation of the line festive excitement prevailed when each worker of the brigade of R. Fayzullin from the Volgoelektroset'stroy Trust, seeing the finish on the long route, expedited the work, trying to perform the installation work especially quickly and with high quality. And now at a height of 30 m steeplejack I. Inkin is fastening the last chain. Behind lie more than 280 km of a difficult route. Brigade leader Rifkat Faysullin felt at ease.

Each time his collective completes the running of a new line, he mentally glances over the covered kilometers. And over a quarter of a century this experienced installer has accumulated many of them. It fell to him to build lines to Magnitka, Tyumen' and Surgut. And the other brigade leaders, their assistants, who had mastered perfectly their difficult occupation, have also covered a considerable distance.

The running of the main line on the Magnitogorsk-Beketovo section is of great national economic importance. It completes the circuit around the large industrial centers of the Urals, which makes it possible to utilize their power capacities most efficiently and to obtain a backup channel for the enterprises of Ufa. But this is only one aspect of the matter. Another purpose of the line is especially important. It is well known that in our country there are about 100 interconnected power systems. But frequently the connecting lines are of low voltage. The completed 500-kV electric power transmission line has the advantage that it makes it possible, by taking into account the difference in the time zones, to transmit power efficiently and in large amounts from the east to the west and vice versa.

Other most important problems are also being solved with the placement of this main power line into operation. Here is one of them: at present the Iriklinskaya GRES, which was built in the Orenburg area, is so far not able to operate at the rated level, although its capacities have been assimilated. Two power blocks of this station, as it is customary to say, are "cut off." The new 500-kV electric power transmission line paves the way for the complete utilization of the developed capacities. Moreover, the line also creates dependability in the supply of power to such industrial centers of Bashkiria as Salavat, Sterlitamak and Ishimbay.

And there is another feature of the 500-kV electric power transmission line: for the first time in the practice of building such lines reinforced concrete pylons were used instead of metal pylons, which made it possible to save thousands of tons of metal.

7807
CSO: 1822

ELECTRIC POWER

WASTE OF ELECTRIC POWER IN STAVROPOL'SKIY KRAY

Moscow PRAVDA in Russian 7 Dec 80 p 3

/Article by A. Fedosyuk, manager of the Stavropol' Regional Power Administration (Pyatigorsk, Stavropol'skiy Kray): "Save Power"/

/Text/ The Central Dispatcher Administration of the USSR Ministry of Power and Electrification annually approves the maximum amounts of electric power consumption by the subordinate regional power systems in kilowatt-hours, by quarters. However, when you compare these rates with the limits of the subscribers, which USSR Gosplan allocates to them, the ends do not meet. The total of the maximum amounts which is set by the Central Dispatcher Administration is considerably less than the total of the limits on which our partners rely. Due to such "scissors" in planning it is necessary to limit the supply of electric power to some users.

Thus, an imbalance of supply and demand is deliberately planned. The enterprises which received the precise limits, which are based on the strictest, scientifically sound rates, suffer in this case. And on the other hand, those living with a "reserve," in the case of free, extravagant rate setting, are in a more advantageous position. Do not violations of the discipline of power consumption begin with this?

The zone served by our administration has 21,600 subscribers of the state-cooperative sector. The needs for electric current of most of them are determined not per unit of items being produced, but according to the value of the "gross." Such an approach is conducive to mismanagement and creates the appearance of well-being where the alarm must be sounded.

If we judge, for example, the use of electric power at the Pyatigorsksel'mash Plant from the reports, an encouraging picture appears. "A saving exists" there always. The plans of organizational and technical measures, which are aimed at ensuring economy, are ostensibly completely fulfilled. At the same time the checks made by staff members of the power marketing administration show that here the most elementary rules are often not observed. During the lunch break the deserted shops are lit by tens of bright bulbs. While there is a powerful boiler house, electric heaters are turned on in a number of rooms. In short, the losses of electricity are most undisguised.

One of the main reasons is that in the cost of the products being produced the proportion falling to electric power is only 0.95 percent. The collective has been placed under carefree conditions by the Soyuzptitsemash Production Association. The specific rates of consumption of electricity are planned annually in excess of the achieved rates.

The incident, it must be said, is typical. It is characteristic of both industrial and agricultural production. Let us take, for example, Aleksandrovskiy Rayon of Stavropol'. Since the beginning of this year the Kolkhoz imeni Voytik has exceeded the assigned plan by 480,000 kWh, the Kolkhoz imeni Kirov--by 80,000 kWh. But then at the Kolkhoz imeni 50-letiya Oktyabrya they achieved a saving. And a considerable one: 223,000 kWh. What is behind this? First of all the disparity between supply and demand. The farm came out ahead only owing to overstated limits. But those who were ranked among the "wasters" frequently received from the very start unrealistic, obviously too low limits. This paradox was caused by flaws of planning.

Such situations have certain psychological consequences. Forced excessive consumption, which is dictated by the interests of business, can be repeated again, then again--even when there are no objective reasons for this. Discipline decreases, irresponsibility arises. That is why a considerable amount of electric power is consumed wastefully, to no purpose. Last year the inspectorate of the power marketing administration detected and cut off inefficiently used capacities with a conditional annual consumption of 65 million kWh. So what? This year the picture has been repeated.

Power supply, as is known, has its own "peak" hours. It is necessary to adapt to this, by shifting a part of the workload to a less tight period of the day. The majority of subscribers do not wish to trouble themselves with "extra" worries and refuse to seek compromise solutions along with representatives of the power system. This is how the situation formed at the Stavropol' Truck Crane Plant. According to the calculations of specialists, the inefficient consumption here is almost 1 million kWh a year, or 13 percent of the electric power consumption.

You might ask: how does the Avtokran All-Union Production Association view this? It can be stated frankly that it does so with complete indifference, since it is constantly increasing the specific rates of consumption of electric power. Of course, such a policy does not prompt the collective to utilize the capacities.

Unfortunately, it is possible to cite as many such examples as you wish. An especially abnormal situation has arisen at the Budennovsk Machinery and Repair Plant of Stavrolpol'skiy Kray. It could have saved about one-fourth of the consumed electric power by adhering to the simplest requirements of the discipline of power use, by not allowing leaks of air from the air pipes, having ensured an efficient load of the heat-treatment furnaces or at least having cleaned the windows of the production buildings.

The Stavropol' Regional Power Administration was able to achieve a reduction of the losses of electricity during its transportation. On the average over the past five years they have been a little more than 7 percent of the total amount with all-union losses of 9 percent. But not all the opportunities are being utilized, particularly because the readings of the instruments and metering equipment, which are produced at the enterprises of the Ministry of the Electrical Equipment Industry, are often inaccurate.

There are 20-fold more consumers in the household sector than in the state-cooperative sector. There are also roughly that many more violations. Here the subscriber determines himself according to the electric meter the cost of the electricity consumed. At times he considers himself to have the right not to pay the total required amount at once. It seems like a harmless variant, but accounting gets confused.

There are also instances of the open misappropriation of electric power. It seems that the deliberate violators should be punished more severely. In criminal legislation there are standards which stipulate liability for the misappropriation of socialist property, and all the same I do not recall a case in which if only one misappropriator of electric power has been brought to trial. Only the staff members of the power marketing administration and the people's controllers are fighting against evil. Their rights are not extensive. And the administrative commissions of the executive committees of the local soviets of people's deputies are reacting inefficiently and, probably, for that reason extremely leniently.

Power consumption in the household sector is increasing unusually rapidly. Often apartments are overflowing with electrical appliances. Perhaps the rate levied on the population should be differentiated by prices depending on the consumed kilowatt-hours.

Within the power systems the determination of the consumption of electric power for its transportation also requires improvement. The practice of calculating it, which concerns the alternate transfer of the electric current from one region to another, is especially imperfect. There are limits to such a transfer, which are different at different times of the year and day, but these differences are inadequately linked with the needs of consumers. We would like to receive the recommendations of the All-Union Scientific Research, Planning and Design Institute of Industrial Power Engineering. Unfortunately, it often keeps aloof of urgent practical problems.

It is necessary to increase the exactingness both with respect to those who provide electricity and for those who receive it. The service of the State Inspectorate for Power Engineering Control, which was recently created at the base of the enterprises of the power marketing administration, is called upon to play an active role in the interrelations of the concerned parties. It seems that this reorganization will promote the tightening up of the discipline of power consumption, the need for which is dictated by the interests of the entire national economy.

I believe that two clauses should be added to the paragraphs of the Main Directions, which concern electric power engineering. The paragraph: "To continue the operations on the further development of the Unified Power System of the country, the increase of the reliability of the electric power supply of the national economy" should be supplemented with the words /"on the basis of the balancing of the plans which regulate this process"/ /in boldface/. At the end of these paragraphs it should be noted by a single line: /"To introduce everywhere a strict discipline of power consumption, to hold its violators more strictly accountable"/ /in boldface/.

7807
CSO: 1822

UDC: 622.276.5 (4/9)

CERTAIN PROBLEMS IN OIL PRODUCTION

Moscow NEFTYANOYE KHOZYAYSTVO in Russian No 1, 1981 pp 3-7

[Article by A. A. Dzhavadyan and Ya. Ye. Shkadov, Ministry of Petroleum Industry: "Some Problems of Development of Oil Production Technology in the 11th Five-Year Plan"]

[Text] Development of the petroleum industry in the 10th Five-Year Plan, as in previous years, was accompanied by a continuing and frequently substantial increase in complexity of geologic conditions for oilfield development. More and more oilfields had to be developed in zones with a harsh topography and climate, which could not help but exert considerable influence on the character of technological and technical decisions. The process of increasing complexity of conditions of development and exploitation will continue in the future, especially since more fields containing high-viscosity and high-sulfur crudes or involving poorly-configured reservoirs will be drawn into production in oil producing areas presently in exploitation. This will also naturally affect the character of technological and technical decisions.

But the most important circumstance, which cannot be ignored, in the petroleum industry's scientific and technical development plans will be a logical change in conditions of operation in fields entering a late stage of production, including the largest fields, which have produced a high percentage of this country's total production. Factors which are already significantly present in these fields include a steady rise in the percentage of water in produced fluids, well aging, decline in productivity, increasing corrosiveness of produced fluids, intensive salt and paraffin deposits, and natural wear on pipe, fittings and metal structures. In connection with this there is occurring a steady increase in the volume of work connected with maintaining well productivity and ensuring operational reliability of oilfield facilities. Under such conditions, in order to avoid production losses and to prevent unwarranted production costs, we cannot restrict ourselves merely to solving problems which arise at a given moment. Unfortunately just such a mistake is frequently made by some enterprise officials and leading production specialists. It is necessary to be able to foresee possible changes in operating conditions, to take them into account, and to give them priority when solving current problems.

We shall examine some of the most important problems of development of oil production equipment.

First of all we shall discuss changes in the structure of the well inventory, broken down by production methods. At the present time the inventory of operating wells is as follows (percentages of total): natural pressure -- 14.7; electric centrifugal pump -- 18.9; sucker-rod pumps -- 63.2; gas lift wells -- 2.8. In the period 1970-1979 the number of artificial lift wells increased by 46 percent, with a 30 percent increase in sucker-rod pumping wells, a 15 percent increase in gas lift wells, and a 170 percent increase in electric centrifugal pumping wells.

Thus there was an increase in the percentage share of wells operating with high-output equipment, dictated by the necessity of providing artificial lift to maintain adequate production of hydrocarbon fluid. Average production of fluid from wells employing an electric centrifugal pump was 4,113 tons per well-month worked in 1979 (30 percent greater than 1970). During the most recent five-year plans there has been a steady rise in the percentage share of artificial lift production in Western Siberia, although high-productivity wells were being brought on-line each year.

The greatest change in the structure of production based on types of lift was caused by intensification of exploitation of the Ural-Volga fields, as a result of which a large number of wells were converted to artificial lift. In the Tatar ASSR, for example, the number of artificial-lift wells increased from 60 to 99.2 percent between 1970 and 1979. Absolute volumes of artificial-lift production during this period increased by 46 percent in the Tatar ASSR, by 59 percent in Kuybyshevskaya Oblast, 122-fold in Western Siberia, and 75 percent for the Ministry of Petroleum Industry, with an overall production volume increase of 60 percent.

With an increase in the total number of wells producing by artificial lift, there was a substantial increase in volume of work involved in repair, maintenance and servicing of these wells (Table 1). It is evident from Table 1 that in spite of a certain decrease over the 10-year period in frequency of routine maintenance/minor repairs per well, the total number of minor repairs increased by almost 16,000. Frequency of repairs was reduced as a result of implementation of an aggregate of organizational-technical measures and some improvement in equipment design and construction, but it is still too high. At the same time there still remains substantial reserve potential in this area, even with the existing level of equipment.

Table 1.

Indicator	1970	1975	1979
Average annual number of industrial-production personnel in oil production, thousand persons	104.3	108.8	163.6
Number of repairs, thousands:			
major	12.0	16.5	20.0
minor	221.0	229.7	228.8
Frequency of minor well repairs, repairs per well per year:			
natural pressure	0.46	0.46	0.41
gas lift	1.00	1.04	1.89
electric centrifugal pump	3.46	2.00	2.05
sucker-rod pump	5.13	4.70	4.03
Number of wells converted to artificial lift	1648	2.55	3546

The problem of achieving a substantial decrease in the frequency of minor repairs is assuming exceptional importance in the 11th Five-Year Plan due to the anticipated further change in the structure of production on the basis of production methods, and the targeted significant increase in the well inventory. Scientific-technical measures plans must take into account the fact that in 1980 a period of production decline began in many oilfields which had reached maximum production. Further development of the majority of fields will be complicated first and foremost by the fact that the roster of production wells will be substantially increased with development of low-productivity pools and a certain increase in density of the well network (Table 2).

Table 2.

Inventory of Producing Wells	Ministry of Petroleum Industry		Western Siberia	
	as of 1 January		as of 1 January	
	1981	1986	1981	1986
Total	82,477	122,445	12,156	35,886
Natural pressure	11,431	14,361	7,002	10,258
Electric centrifugal pump	17,221	. 34,100	3,190	13,407
Sucker-rod pump	51,525	67,734	1,499	7,896
Gas lift	2,300	5,950	465	4,025
Subsurface hydraulic pumping	-	300	-	300

The percentage of water in produced fluids will also rise. In 1970 the industry as a whole produced 0.8 m^3 of water per ton of crude, while it is projected that in 1980 and 1985 water will amount to 1.38 and 1.91 cubic meters per ton respectively. This will require an increase in the average output of artificial lift equipment.

We can also anticipate a substantial decline in the percentage share of crude oil production by natural pressure. Correspondingly there will be an increase in the percentage share of artificial lift production employing high-output equipment. In addition, well production conditions will become more complex in connection with development of fields with difficult-access and low-value crude oil reserves.

Table 3.

Production Method	Time Between Repairs, Days	Number of Repairs Per Year Per Thousand Wells	Number of Maintenance Brigades Per Thousand Wells	Time Required to Make Repairs, Hours	Number of Oil and Gas Production Administration Industrial-Production Personnel Per Producing Well
Gas lift	2000	182	1	44	0.3
Electric centrifugal pump	232	1573	10	44	2.0
Sucker-rod pump	148	2466	7	18	2.0
Hydraulic pump	2000	182	1	40	0.3

As calculations indicate, the total number of artificial lift wells will increase by more than 50 percent in the 11th Five-Year Plan; 89 percent of these will be pump wells. The structure of the artificial lift well roster (see Table 2) is planned on the basis of actually anticipated equipment manufacture capabilities, although extensive development of the gas lift method and subsurface hydraulic pumping would be more efficient. An optimal structure of production by methods should be formed on the basis of the principal technical-economic indices contained in Table 3, although this is substantially limited by equipment manufacturing capabilities, especially for gas lift production, which is the most efficient for the Western Siberian areas in particular.

In connection with this, the Ministry of Petroleum Industry, jointly with the Ministry of Chemical and Petroleum Machine Building, has worked out the problem of expanding in the 11th Five-Year Plan manufacture of an aggregate of gas lift equipment and an increase on this basis of the total volume of gas lift production. At the same time plans call for renovation of the gas lift production system in the Kotur-Tepe and Bara-Gel'mes fields in Turkmenia and in Kazakhstan's Uzen' and Zhetybay fields.

Implementation of the targeted measures, however, will still not permit expansion of gas lift production on the required scale, and therefore there should be extensive future installation of electric centrifugal pumps. Centrifugal pumps are targeted for 42.2 percent of total production well inventory growth in the 11th Five-Year Plan, with 40.5 percent targeted for sucker-rod pumps. Consequently, in the forthcoming five-year period principal measures aimed at improving efficiency of well production methods involve improving centrifugal pumps and sucker-rod pumps. Important areas of emphasis in this work will include improvement in the technical level and quality of manufacture of equipment for centrifugal and sucker-rod pumping; improvement in the conditions of utilization of equipment; execution of an aggregate of measures to achieve correct selection of equipment and determination of equipment operating conditions; strengthening of existing and establishment of new services for receiving and repairing pumping equipment; substantial improvement in the organization, equipment and process of routine well maintenance.

The task of achieving improved utilization of pumping equipment is a comprehensive one and requires the joint participation of many services of the oil and gas production administrations and production associations. At the same time, the oilfield workers should be given effective help in accomplishing this task by staff of scientific research and design organizations.

The Ministry of Petroleum Industry, together with a large group of related ministries, has drawn up a comprehensive program for developing high-reliability electric centrifugal pumping equipment. Manufacture of electric centrifugal pumps of improved designs will begin in 1981, on the basis of new materials and manufacturing techniques, in order to boost the pumping installation time between repairs to a national average of 450 days.

At the same time, according to the program, the Ministry of Petroleum Industry is to carry out in 1981-1982 measures to improve conditions of operation and quality of maintenance of electric centrifugal pumps in order to increase the time between repairs on wells with repaired pumping equipment to 80 percent of that of new installations. The importance of these measures is confirmed by the fact that in the

Tatneft' and Bashneft' associations, where maintenance is better organized than in other associations, the time between maintenance on repaired equipment is 62 and 75 percent respectively. While counting on a decisive contribution by machine builders toward the manufacture of high-quality and reliable electric centrifugal pumps, oilfield production workers should not forget that the operation and maintenance of this equipment in many oilfields cannot be considered satisfactory. In the first half of 1980, for example, an average of 10.7 percent of all minor repairs on wells equipped with electric centrifugal pumps were followup repairs due to the poor quality of repairs the first time. Followup repairs comprised 19.6 percent of the total in Tomskneft', 18 percent in Glavtyumenneftegaz, and 15.4 percent in Kuybyshevneft'.

In addition, premature centrifugal pump failures were due in greater measure to deficiencies in work done by the installation and maintenance services, mechanical cable failures, incorrect selection of equipment, leaky lift tubing, and poor well preparation for production. Quality of routine maintenance on electric centrifugal pumps is particularly poor in Nizhnevartovskneftegaz and Kuybyshevneft'.

Oilfields are still having certain difficulties in centrifugal pump servicing and maintenance, but the main reason for follow-up repairs is insufficient attention to quality of routine well maintenance. Improvement in the quality of servicing and maintenance of centrifugal pump equipment constitutes a substantial reserve potential for boosting oil production, as is indicated by the positive experience of leading brigades of many oil industry enterprises.

Solving problems pertaining to improving the performance figures on wells equipped with sucker-rod pumps demands serious attention. The percentage share of oil production with this method is small in comparison with centrifugal pumping, but 63.2 percent of all producing wells employ sucker-rod pumps; these wells have the shortest time between maintenance, and consequently the greatest number of minor repairs. Actual time between repairs averages approximately 103 days, and varies from 40 to 326 days for different associations. In spite of an increase during the years of the 10th Five-Year Plan in the length of time between maintenance on wells equipped with sucker-rod pumps by 12 days, the sucker-rod pump performance figure is inadequate. If it retains the 1975 level to 1985, the number of repairs on wells equipped with sucker-rod pumps will increase by 25.7 percent.

Efforts to achieve a high reliability of sucker-rod pumps should be conducted in two areas: improving the technical level and quality of the rods and equipment, and improvement in equipment operation and maintenance in the oilfields.

The first area is the most important task of machine building organizations. They accomplished certain efforts in 1970-1980 to improve the quality of pump rods, which are made with a rolled thread and undercut beyond the threads. Rods are made, although in insufficient volume, of six grades of high-grade steel, with high-frequency current processing specified for two grades. As a result the number of rod failures per well per year has declined to 0.20-0.58, with an average of 0.72 for all types of rods employed. While rod quality has significantly improved, qualitative changes have not taken place in the area of manufacture of plunger pumps. Unfortunately exactly the same pumps continue to be produced by plants for all categories of wells, regardless of the complexity of their operation. Machine builders should speed up transition to mass production of new types of plunger pumps, particularly the tubing type with a wear-resistant coating on the inner surface of the working barrel. The types of plunger pumps manufactured should meet the diversified operating conditions and permit pump selection in precise conformity with optimal fluid pumping conditions specified for each well.

Beam pumping units should meet similar demands. In place of 13 type-sizes prescribed by GOST 5866-76, only five are being built at present. Industry is not yet building beam pumping units designed for a load of 12 tons and a stroke of 3.5 meters, as well as hydraulic-powered sucker-rod pumping units which have long since been designed; efforts are not being made to produce new designs which provide higher efficiency and less metal consumption.

Petroleum industry growth and development tasks demand of machine builders prompt solving of these urgent problems in the 11th Five-Year Plan.

At the same time, oil production enterprise workers should work hard and painstakingly every day on improving sucker-rod pumping technology. At enterprises where such work has been well organized and is being conducted on a high engineering level, substantial results are being achieved. One example is the work being done with sucker-rod wells in the Bashneft' Association.

For example, in 1966 sucker-rod well operating time between maintenance was 82 days, while by 1979 this figure had increased to 260 days, with the roster of sucker-rod wells increased from 4,050 to 9,500. They have skillfully set up selection, recordkeeping, and inspection of rods and rod strings, which has made it possible to reduce the number of rod-snap failures from 1.7 to 0.36 per well per year on the average, and correspondingly to reduce the number of minor repairs to replace a snapped rod from 6,000 to 3,230, although the number of sucker-rod wells has increased by 5,450. As a result, in 15 years the number of routine maintenance brigades has been increased by only 21, with a producing well inventory increase of more than 7,500 wells. Thus the experience of the Bashkir oilfield workers shows that even with utilization of series-manufactured equipment it is possible to obtain better results, and therefore in 1981 it is essential that this experience be even more extensively studied and adopted by the oilfield workers of other regions.

As important as boosting the productivity and reliability of oil lift equipment is the problem of improving and developing methods of intensification of the flow of oil into the well. In addition to increasing well production capability, employment of these methods improves the oil recovery figure, which unfortunately is not always considered in oilfield development practices.

In the period 1978-1980 approximately 38,000 well-stimulation treatments were performed, or approximately on one out of every six wells each year. For the most part, however, such measures are performed in fields at a late stage of exploitation. Many people do not view intensification of flow as a reserve potential for additional oil production and a means of boosting yield at any stage of production. At the same time, frequently well-stimulation treatments are performed with faulty techniques, with inadequate substantiation of selection of treatment process.

Good results in this area have been achieved by the work forces of Glavtyumenneftegaz, Tatneft', Bashneft', Grozneft', Komineft', and Udmurtneft'. Working in close contact with regional scientific research institutes and providing a skilled engineering approach to selection of wells and treatment process, they have succeeded in obtaining from each well treatment an average of 740 tons of additional crude, with 200 tons the industry average.

In this article we have discussed only a few problems which are the most important ones for oil production and which are directly connected with efficient operation of production wells. No less important problems include improvement of oilfield oil and gas separation and treatment systems and ensuring their reliability and economy; further improvement and development of automated systems, well and facilities maintenance and servicing equipment; development of efficient methods of combating deposits of paraffin and mineral salts as well as corrosion in wells and equipment.

All these problems occupy their proper place in scientific and technical development plans for the 11th Five-Year Plan. Special attention must continue to be focused on fullest utilization of casinghead gas. The majority of oil producing regions have boosted the level of utilization of casinghead gas to 85-95 percent of resources. In some associations, however, the gas recovery situation remains unsatisfactory and demands adoption of more aggressive measures. The board of the Ministry of Petroleum Industry examined in June 1980 problems pertaining to fuller utilization of casinghead gas and ratified urgent measures in this area.

Oil production enterprise workers are counting on assistance from scientific research institutes in solving urgent scientific and technical problems. In the 10th Five-Year Plan industry scientists took active part in solving technical problems which arose. With their assistance a basic solution has been found to the problem of combating deposits of salts (BashNIPIneft', SibNIINP), foam systems are being successfully employed in some production processes (All-Union Oil and Gas Scientific Research Institute), research has been conducted on improving the quality of separation and treatment of oil and gas (VNIISPTneft'), etc.

The scientific potential of branch scientific research institutes also makes it possible successfully to attack other critical problems, particularly those which are important for a successful job by oilfield workers in the forthcoming five-year period. Unfortunately projects at many scientific research institutes are progressing extremely slowly. PermNIPIneft' and UkrgiproNIIneft', for example, have been working for a long time on designs of in-line electric drives for bottomhole pumps, but no results have yet been produced. Work has been dragging out on development of a hydraulic impulse pump (UkrgiproNIIneft'), a thermal pump (All-Union Oil and Gas Scientific Research Institute), and various types of gas and gas-sand anchors (AzNIPIneft'). Work is proceeding slowly at the BN [expansion unknown] special design office on improving submersible screw-type pumps (although they are being series-produced), and unpardonable delays are occurring in putting many promising pieces of equipment into production. Some scientific research institutes have gone on for years without suggesting any fundamentally new solutions pertaining to oil production equipment and processes.

Successful resolution of the problems raised here would open up real prospects for reducing servicing and maintenance personnel requirements by 25,000 persons in the next 10 years and achieving savings in operating costs which exceed by 3-3.5-fold capital requirements for building corresponding machine building production capacity.

COPYRIGHT: Izdatel'stvo "Nedra", "Neftyanoye khozyaystvo", 1981

3024
CSO: 8144/0606

FUELS

PROBLEMS OF INCREASING TURKMEN PETROLEUM, GAS PRODUCTION

Ashkhabad TURKMENSKAYA ISKRA in Russian 7 Dec 80 p 2

/Article by Chief Engineer of the Leninneft' Petroleum and Gas Production Association R. Allakhverdiyev, correspondent of the special department of petroleum and gas of TURKMENSKAYA ISKRA: "The Foundation of Production"/

/Text/ Diligent engineering work on the stock of wells and the selection of geological engineering measures on the basis of a careful study of the situation are an important reserve of the intensification of petroleum and gas production. Not without reason is it written in the fourth section of the draft of the Main Directions of USSR Economic and Social Development for 1981-1985 and the Period to 1990: /"To expand the use of new methods of affecting petroleum beds and to increase by means of this the extraction of petroleum from the earth's interior"/ /in boldface/. By the end of the 11th Five-Year Plan it is necessary to increase greatly the level of production of black fuel.

At the Leninskoye petroleum and gas deposit since the beginning of the year more than 3,000 production operations have been carried out, which made it possible to work the field under optimum conditions. Good results were obtained from the return of wells to the overlying horizon, shootings, reshootings and leachings of the sand plugs. Tens of wells were converted to mechanized modes of production.

I would like to emphasize that these operations are performed during the overhaul of wells. That is why the repair service is acquiring greater and greater importance.

No so long ago the Leninneft' Administration had seven brigades for the underground overhaul of wells and eight for the major overhaul of wells. Moreover, they all were undermanned and worked during one or two shifts. The USSR Ministry of the Petroleum Industry met us halfway. At the beginning of the year four collectives from other regions of the country were dispatched to us. Many of the workers wished to stay in Kotur-Tepe.

An opportunity to draw people from Groznyy was found. The expeditionary work shift method, which has justified itself at many associations of the country, was used. The 12-hour work shifts alternate with the rest of the people at home. In all 80 people underwent training in special courses at the educational combine of Turkmenneft', acquiring the occupation of operator of the underground overhall of wells. As a result the number of brigades increased, many of them became full-fledged brigades. All the collectives were changed over to the progressive piece-wage. The result was not slow in showing: the repairmen began to work more intensively, with greater interest in the end results.

The fact that the supply of the brigades with automatic equipment for the screwing together and unscrewing of pipe and other means of small-scale mechanization increased, also had a beneficial influence on the strengthening of the repair service. People are now working in specific sections and have a good knowledge of their wells. As a result the activeness of the repairmen has increased appreciably, they have begun to make proposals more often on the improvement of production. The role of foremen in the organization of labor, the training and education of personnel is increasing. Socialist competition has become more effective. Its results are tallied regularly, the winners are awarded honorary diplomas and bonuses. Among them are the brigades of R. Zeynurov, T. Aralov, K. Ayabayev and G. Vel'mamedov, which back in the first half of the year completed their five-year plans.

Many steps, it seemed, were taken. And still it is impossible to assert that the service is handling the ever increasing amount of operations at the fields of Kotur-Tepe and in the shop for the maintenance of the formational pressure. The technical equipment of the brigades is inadequate. The lack of access roads and electric power transmission lines to the wells is interfering. In short, the problems which have been discussed repeatedly as before have not been solved.

There is an elementary rule: before the start of the operations to lay roads, electric power transmission lines and pipelines. All this is also done for the drillers. But, having completed the sinking of the wells, the drillers dismantle the supply lines, leaving the repairmen literally in a bare spot. True, the petroleum workers make out somehow or other: they use a mobile electric power station, get water by pipelines from the gas distributing banks and so on. But is it not better to build systems for a long time, thoroughly?

It is well known how much effort the preparation of wells for overhauling requires. Our specialized brigade for these operations is small and is not coping with the assigned amount. The repairmen themselves have to plug the wells, clean their heads and so on.

The personnel problem has also not been solved. There are not enough people, but we sometimes cannot keep those newcomers who wish to remain at Kotur-Tepe: there are no apartments. There is also no family hostel at the association. Unfortunately, so far we have also not been able to set up the smooth conveyance of workers from Groznyy. The allocated AN-26 airplane does not suit us, since there are half as many seats in it as required. The runs are delayed two or three days. The pilots first take home those who have completed the work shift, and then convey their replacement.

The workers are also dissatisfied with the living conditions in Kotur-Tepe. The Administration for the Supply of Production Equipment and Complete Sets of Equipment of the Turkmenneft' Association poorly supplies our hostel with furniture and furnishings. In the dining room the menu is monotonous, the quality of preparation of the food is low.

The situation with the sending and receipt of correspondence is even worse. The managers of the communications center, contrary to the decision of the city soviet executive committee, closed the communications department in Kotur-Tepe.

Questions of the social plan took up considerable space in the materials of the October (1980) CPSU Central Committee Plenum and in the draft of the Main Directions. Before requiring highly efficient work from a person, we should create the necessary everyday and production conditions for this.

/Only the comprehensive solution of the above-mentioned problems, the close interaction of the workers of the Leninneft' Petroleum and Gas Production Association with other subdivisions of the Turkmenneft' Association and the attention of managers to social questions and the person will make it possible jointly to increase the efficiency of the working of the operating stock of petroleum and gas arteries/ /in boldface/.

7807
CSO: 1822

FUEL THEFT PROBLEMS IN UKRAINE SURVEYED

Theft Problems Cited

Kiev SIL'S'KI VISTI in Ukrainian 3 Sep 80 p 2

[Article by A. Zhosan, head of management section for control of usurpation of socialist authority of the Ukrainian SSR MVS, Lt Col, militia: "The Wrong Turn of the Gasoline Truck"]

[Text] M.A. Vasilevs'kiy, crew leader of the kolkhoz imeni Shevchenko of the Gornostayevskiy rayon of the Khersonskaya oblast' and P. M. Kozlov, director of that farm had waited a long time for the right moment. It came in May of this year when the kolkhoz board of directors appointed the director to handle deliveries of fuel for vehicles, tractors and other agricultural equipment from the petroleum base of the rayon agricultural technology association.

Assign—they did, monitor—they forgot. This fact was also appreciated by Vasilevs'kiy and Kozlov. After obtaining the proper amount of fuel at the base, they claim that they made a wrong turn with the gasoline truck and emptied 500 kilograms of gasoline into their own tank.

This fact was discovered by militia men. The criminals were criminally indicted.

The crimes of I. F. Khizhnyak, assistant head bookkeeper of the Druzhba kolkhoz of the Zaporozhets rayon of the Zaporozhskaya oblast' also did not go unnoticed. In collaboration with I. M. Kosovets, chief of section #2 of the farm, he systematically sold gasoline to private parties, and the money gained by this ended up in the pockets of the criminals. From 1979-1980 they ripped off over 4,000 kilograms of gasoline valued at more than 1,000 rubles. The enterprising "salesmen" are being appropriately prosecuted.

A. A. Bridko, driver-expediter of the kolkhoz imeni Michurin of the Bakhmatskiy rayon of the Chernogovskaya oblast' very much wanted some easy money. By order of tenant A. M. Kharchenko, he got rid of fuel surpluses which were artificially created at the farm's fuel and oil storehouse. Workers in organizations for control of usurpation of socialist authority found 45 tons of these "surpluses" valued at 10,877 rubles.

Unfortunately, the militia often encounters such cases. They say that in some kolkhozes and sovkhozes, associations of agricultural technology and other businesses proper attention is not given to conservation and efficient utilization of fuel and oil supplies. This creates conditions for various abuses, theft and speculation.

A check made by internal affairs offices found rather large surpluses of fuel especially at the Teplichnyy sovkhoz (23.4 tons of gasoline and diesel fuel) and at the autorefueling station of the Volnovaskiy rayon agricultural technology association (11.4 tons) in the Donetskaya oblast'; at the kolkhozes Peremoga in the Znidachevskiy 919.9 tons), Leninskiy Shlyakh in the Yavorovskiy rayon of the Lvovskaya oblast' (10 tons) and some other farms.

Unsatisfactory accounting of fuel and fuel oil supplies during storage and utilization were also discovered. D. K. Yevchuk, head of petroleum management at the Babinskiy sovkhoz in the Goshchanskiy rayon of the Rovenskaya oblast', making use of the lack of control of farm managers, performed his service duties without conscience. He did not record fuel deliveries and sold gasoline to anyone who approached him. An inventory of the warehouse revealed that it was short 55.490 kilograms of fuel worth nearly 11,000 rubles. The criminal got his just deserts.

V. A. Dishkant, head of the warehouse of the kolkhoz imeni 25th Congress of the CPSU in the Zolochovskiy rayon of the Lvovskaya oblast' also worked carelessly. A check found a shortage of 33 tons of fuel. Where is it? He could not answer that question. Criminal charges were also lodged against Dishkant.

At the kolkhozes imeni Chapayev, imeni Dzerzhinskiy, Nove Zhittya, imeni Frank in the Drogobitskiy rayon; imeni Lenin, imeni Kirov, sovkhoz Brody in the Brodivskiy rayon of the Lvovskaya oblast', our workers found no calibration tables on tanks in which fuel and oil supplies are stored, and the delivery and consignment book was not filled out. After all, the warehouse chiefs record fuel deliveries based on the bills of lading, and the chiefs claim, nobody rechecks measurements of gasoline. Hence the road to crime.

Similar omissions also occur at several kolkhozes and sovkhozes in the Voroshilovgradskaya oblast'. Here fuel tanks are not calibrated, storehouses are missing dipsticks to measure fuel in the tanks. As a rule, gasoline is dished out "by the bucket". The Yavorovskiy agrochemical association transports diesel fuel to farms in the Yarovoskiy rayon of the Lvovskaya oblast' without the proper documents.

Organizations of internal affairs found cases of unjustified records and overconsumption of large amounts of gesoline, fuel oil and other petroleum products. For example, at the kolkhozes imeni Dyachishin in the Baltskiy rayon of the Odesskaya oblast' in six months of this year illegally wrote off 10 tons of gasoline, claiming it was technologically necessary for cleaning of spare parts. In the same period directors of the Zhovten kolkhoz in the Monastyrskiy rayon of the Ternopol'skaya oblast' thoughtlessly allowed illegal write off of more than 50 tons of diesel fuel. As a result of excessive consumption of gasoline per ton-kilometer for 6 months of the year, large amounts of fuel were written off at farms in the Aleksandrovskiy rayon of the Kirovogradskya oblast'. In addition, at the kolkhozes Zapovit Lenina 20 tons, imeni Karl Marx 15.7; Ukrayina 15.1; and Peremoga 39.7 tons of gasoline were written off. On the whole, at kolkhozes in this rayon 119 tons of fuel were overexpended in 6 months.

Similar assumptions were also made at the sovkhoz imeni D. Ul'yanovskiy Shlyakh do Komunizmu in the Golopristanskiy rayon of the Khersonskaya oblast'; at the sovkhoz Mayak of the Rovenskiy rayon of the Rovenskaya oblast' and at some other farms.

With all the facts of thievery, artificial creation of surpluses, shortages, overconsumption and illegal entries of fuel, the organizations for control of usurpation of socialist authority have taken the appropriate measures. Managers of farms and agrobusiness organizations, in whose jurisdiction fuel and fuel oil supplies were located, have been sharply chastised for each crime permitted by their subordinates and given proper evaluation. Fuel must be handled economically.

Follow-Up Response

Kiev SIL'S'KI VISTI in Ukrainian 11 Oct 80 p 2

[Article: Response by Ukrainian SSR State Commission on Economic Technique to article appearing in SIL'S'KI VISTI of 3 Sep 80 p 2]

[Text] That was the title of an article appearing in Sil's'ki Visti (No. 202). It claimed that at some farms in the Ukrainian republic the appropriate struggle for economical consumption of fuel and fuel oil supplies was not being implemented, and there were cases of theft.

As the editors were informed by O. Ishchenko, deputy head of Ukrainian SSR State Commission of Economic Technique, the correspondence "Wrong turn of the gasoline truck" has been discussed at the Naftoposatch collective and the Ukrainian Chief Transportation Economy Technique Organization. Additional measures were noted to improve accounting, accountability, utilization and conservation of petroleum products. The operation of several oblselkhoztekhnikas will be checked for organization of control of distribution and marketing funds, use of fuel resources by assignment, etc.

The Ukrainian SSR State Commission on Economic Technique obliged all oblast' agricultural technology associations to improve control over the use and conservation of petroleum products at kolkhozes, sovkhozes, rayon agricultural technology associations, and other agrobusinesses and organizations.

8617
CSO: 1811

CONSTRUCTION PROGRESS AT MAZHEYKYAY PETROLEUM REFINERY

Vilnius SOVETSKAYA LITVA in Russian 18 Nov 80 p 2

/Article by Secretary of the Central Committee of the Communist Party of Lithuania A. Brazauskas: "The Confident Steps of the Petroleum Refining Giant"/

/Text/ The congratulations of General Secretary of the CPSU Central Committee and Chairman of the Presidium of the USSR Supreme Soviet Comrade Leonid Il'ich Brezhnev to all the participants in the construction and the operators of the first section of the Mazheykyay Petroleum Refinery, in which a high opinion of their work is expressed, caused a surge of labor enthusiasm and the aspiration to cope successfully with the new responsible tasks.

During the years of the 10th Five-Year Plan as compared with the Ninth Five-Year Plan the capital investments in the national economy of Soviet Lithuania increased 20 percent. The value of the fixed capital put into operation is approximately 8 billion rubles. The construction of the Mazheykyay Petroleum Refinery was one of the most important tasks of the 10th Five-Year Plan.

We waited with great impatience until this enterprise would begin to produce products, and Soviet Lithuania, which so far has only consumed petroleum products, would become a republic in which petroleum is refined. What is the new plant, the origination of which was specified by the 25th CPSU Congress, giving us? The power engineering of Soviet Lithuania, its industrial, agriculture and municipal services are using large amounts of fuel oil and diesel fuel, the consumption of gasoline by public and private transport is increasing, more and more bitumen is required for the paving of roads. Until now all this was delivered from the fraternal republics. At the same time estimates convincingly attest that it is more economical to transport petroleum through a pipeline and, after refining it locally, to use the obtained products there. Such a petroleum pipeline has also been laid from Novopolotsk of the Belorussian SSR to Mazheykyay on the basis of economic cooperation with construction workers of the Polish People's Republic.

After the first section of the plant is brought up to full capacity it will produce about half of the fuel oil consumed in the republic and nearly the total required amount of light petroleum products. It has been estimated that in this case the transportation costs alone will be reduced to two-fifths.

And at the end of March of the final year of the 10th Five-Year Plan the future petroleum refining giant took its first steps: the production of fuel oil, diesel fuel and gasoline began, while in August all the main capacities of the first section of the enterprise were put into operation. This event, no doubt, became another striking feature in the glorious history of the development of our national economy--no less significant and joyous than the start-up of the Kaunasskaya GES and the Lithuanian GRES imeni V.I. Lenin, the giant for the production of cement in Nauyeyi-Armyane, the Kedaynyay Chemical Plant and the Ionava Plant of Nitrogen Fertilizers and many other enterprises.

The construction workers of the Mazheykyay Petroleum Refinery installed the complicated technological equipment, dammed the Varduva River, put into operation the first power block of the new heat and electric power station and put into operation modern mechanical and biological water treatment facilities. The entire complex of projects of the petroleum refinery will be located on an area in excess of 500 hectares. At the construction site of the first section alone 25 million m^3 of excavation and earth moving were carried out, 225,000 m^3 of precast reinforced concrete components and more than 20,000 tons of steel components were assembled, tens of kilometers of water, sewage and communications lines were laid. All the measures were stipulated so that petroleum waste would not pollute the environment. The heavy-duty treatment facilities will ensure the discharge into the Baltic Sea only of clean water, and then in negligible amounts.

Similar traits are usually characteristic of large construction projects. The petroleum refinery--the first such enterprise in Soviet Lithuania--is also no exception. Our entire enormous country built it and supplied the equipment. For example, the greatest amount of work was performed by the Order of Lenin Glavneftemontazh Union Trust No 7 of the USSR Ministry of Installation and Special Construction Work. Its Baltic Administration, which is managed by Anatoliy Mikhaylovich Kabatskiy, especially distinguished itself at Mazheykyay. Large subdivisions from Moscow, Yaroslavl', Saratov, Voskresensk, Penza and other cities of the country were made available to assist it. The collective of the Kaliningrad Administration of the Sevzapelektromontazh Trust, which is headed by Matvey Borisovich Kocherovskiy, worked excellently.

It is well known that the success of any construction project depends on the precision of the work of the enterprises and organizations which supply the equipment. And it must be said that the majority of them handled their obligations irreproachably. For example, the Volgogradneftemash Production Association supplied the large technological equipment for the Mazheykyay Petroleum Refinery, the electrical equipment was received from Azerbaijan, the cable products--from Uzbekistan and Belorussia, the pumps--from the Ukraine and Moldavia, the sanitary engineering equipment--from Latvia, the transformers--from Georgia, the air cooling equipment--from Estonia. Many other enterprises from various cities and regions of the country also deserve no less gratitude for the well-performed work.

Since the beginning of the construction of the Mazheykyay Petroleum Refinery at the construction site of the production facilities alone more than 156 million rubles of capital investments have been assimilated, construction and installation work worth 107 million rubles has been performed. A steady growth rate is characteristic of the construction project. For example, in four years of the five year-plan work worth 60.2 million rubles has been performed, at the same time almost half of it was performed during the past year alone.

The fast rate was predetermined by many circumstances. Last year the Central Committee of the Communist Party of Lithuania and the republic government adopted a decree which ensured the sharp increase of the amount of work. A republic headquarters was set up for the operational management of the construction project and the better coordination of the actions of organizations of different departmental affiliation. The creation at the local construction trust of a united party committee, which Yuriy Arkad'yevich Karev heads, promoted the improvement of party political work. A rayon headquaters, which promptly solves labor and everyday problems which arise during the construction, operates in the Mazheykskiy Rayon Committee of the party. Second Secretary of the Rayon Committee Vasiliy Ivanovich Sharapayev is directing it successfully.

Last year the collectives of eight trusts of the USSR Ministry of Installation and Special Construction Work, Glavneftemontazh, Tsentrospetsstroy, Sevzapelektromontazh, Montazhtermoizdeliye, Sevzapmontazh and others, worked at the construction site of the petroleum refinery. At the same time many construction detachments from various trusts and administrations of the Lithuanian SSR Ministry of Construction were sent to Mazheykyay. Several city and rayon motor transport enterprises of the republic also gave assistance. Subdivisions of the Lithuanian SSR Ministry of Land Reclamation and Water Resources performed a considerable amount of work at the project.

The Mazheykyay Construction Trust was reinforced last year by experienced management personnel. For example, former Deputy Chief Engineer of the Kaunasstroy Trust Feliksas Andryunas headed it, while former Chief of the Kayshyadoris Mobile Mechanized Column of the same trust Kyastutis Vizbaras worked for an extended period as the chief engineer. Deputy managers of the trust Bronyus Ryapshyavichyus and Stanislavas Kvetkauskas and the present chief engineer Lyudas Norkyavichyus devoted much labor, knowledge and energy to the matter.

Many large industrial enterprises of the republic, by fulfilling the corresponding assignments, made their contribution to the building of the Mazheykyay Petroleum Refinery. The collectives of the Kapsukas Plant of Automatic Food Machinery, the Ukmerge Venibe Plant, the Kaunas Radio Plant, the Kibartay Trade Equipment Plant, the Panevezhis Ekranas Plant and others merit special praise.

Specific amounts of work at the construction site of the petroleum refinery were established for the ministries of consumer services, municipal services, light, the food, the meat and dairy and the construction materials industry and for the Lithuanian SSR Union of Consumer Cooperatives. The ministries of municipal services and the meat and dairy industry coped best of all with their assignments.

The Mazheykyay Construction Trust worked harmoniously. In spite of the large amount of work, its collective successfully achieved the outlined goals. The production workers of the Klaypeda Specialized Trust of the Mechanization of Construction Operations, whom Chief Engineer Antanas Rekashyus directed at the construction site of the petroleum refinery, worked under difficult climatic conditions. The collectives of the Shyaulyay, Panevezhis, Alitus and Kaunas construction trusts, as well as the subdivisions of the Prommontazh Trust, which Deputy Manager Stanislovas Yuozapaytis heads, handled the assignments on time.

Many worries in connection with the construction of the refinery fell to the lot of the Mazheykskiy Rayon Party Committee and its staff. They are the mass political work in the collectives, the creation of the appropriate production and everyday conditions for the construction workers, installers and operators, the management of the activity of the united party committee of the Mazheykyay Construction Trust and many other question, which arose and arise daily during the construction and formation of the new works. Much has been done. Dining rooms, in which more than 550 people can now be fed simultaneously, have been built and equipped. A secondary school, a new hospital building, kindergartens and more than 100,000 m^2 of total useful living space have been put into operation.

A characteristic trait of the construction project, and this is the great service of the rayon party committee and the party committee of the construction trust, is the aspiration to utilize advanced know-how as effectively as possible and to increase persistently the specificness and purposefulness of the socialist competition. Many valuable initiatives which have become widespread originated at the projects. For example, in early 1979 the brigades of Antanas Gaylyavichyus and Yuriy Alekseyevich Dmitriyev challenged their fellow workers to fulfill each assignment ahead of time. The initiative of the brigades headed by Georgiy Andreyevich Gudzenko and Yonas Barvidaytis became the next stage. These collectives pledged to exceed the shift assignments by not less than 10 percent. Tens of brigades have taken up their initiative.

And today it is a pleasure to note the leading collectives of construction workers and installers, which by their exceptional labor have brought the start-up of the refinery closer. The carpenters of the Third Construction Administration, whose brigade is led by A. Vaytekus, were the first to report the early fulfillment of the assignment of the 10th Five-Year Plan in October of last year. The installers of the Baltic Administration, who are headed by Yu. Dmitriyev, N. Shevelev, V. Baryshnikov and other brigade leaders, distinguished themselves in the socialist competition. The members of these collectives annually fulfilled the output norms by 150-180 percent. The concrete workers of the brigades of S. Berzhanskas and A. Gedminas of the First Construction Administration also kept pace with them. The labor of the brigades of Z. Ionaytis and V. Chernyauskas should be appraised with good words.

The mass media of the republic have covered the progress of the construction of the refinery regularly, with great benefit to the matter. The newspapers SOVETSKAYA LITVA, TIESA, radio and television especially distinguished themselves.

I would like to speak separately about the Komsomol and student detachments which came to the aid of the construction workers during their performance of the most urgent operations. We hope that the Central Committee of Komsomol of Lithuania, the city and rayon Komsomol committees will also take an active part in the construction of the second section of the Mazheykyay Petroleum Refinery.

In speaking about the affairs and tasks of the plant collective, the expeditious work during the start-up of the enterprise of representatives of Soyuznefteorgsintez of the USSR Ministry of the Petroleum Refining and Petrochemical Industry, who were led by Viktor Andreyevich Ryabov, the chief of this association, should be noted.

Thus, the first page of the history of the refinery has been written. Ahead lie new responsible tasks. In 1980 construction and installation work alone in an amount exceeding 14 million rubles has to be performed. And although the assignment of nine months was fulfilled by 117 percent, the pace at some projects so far is not fast enough. It is necessary to complete as quickly as possible the construction of the Bugenyay railroad station. The fate of these operations is in the hands of the collective of the Balttransstroy Trust. The Litovenergostroy Administration should expedite the placement into operation of the second block of the heat and electric power station.

In 1981 the construction workers have to put the bitumen works of the refinery into operation, the deadline for the start-up of the second petroleum refining unit is also not far off. It is necessary to expedite considerably the work on the civic improvements of the city and the construction of facilities of trade and municipal services.

At present a young collective of operators is being formed at the Mazheykyay Petroleum Refinery. It is important for good working traditions to take root in it immediately, for smooth productive labor to distinguish it. To assimilate on time and reliably the new capacities, to operate the complex equipment irreproachably--such is now the main task of the collective of the enterprise.

The workers of Soviet Lithuania are exerting all efforts for the successful fulfillment and exceeding of the assignments outlined by the 25th CPSU Congress and are striving to greet the 26th party congress with new labor achievements. To operate the first section of the Mazheykyay Petroleum Refinery reliably and to perform all the work on the construction of the second section on time--such are the great and important problems which we are obliged to solve successfully.

7807
CSO: 1822

SUPPORT FOR SHALE FUEL UTILIZATION SOUGHT

Kiev PRAVDA UKRAINY in Russian 5 Dec 80 p 2

[Article by Dr Tech Sci, Prof E. Chekalyuk, director, Section for the Problems of Subsurface Hydrocarbons, Ukrainian SSR Academy of Sciences Institute of Geology and Geochemistry of Mineral Fuels, and Chairman, "Neft'" Association, Western Scientific Center, Ukrainian SSR Academy of Sciences: "Shale Awaits Its Master"]

> [Text] "Intensify the search for and exploration of deposits of rich and easily enriched ferrous and nonferrous metal, bauxite, and phosphorite ores, coal, combustible shale, and raw materials for atomic power production and for the production of construction materials and mineral fertilizers...."

From the draft report
of the CPSU Central Committee
to the 26th CPSU Congress

Whenever the discussion turns to the country's economy, petroleum and gas extraction is correctly referred to as its most important sphere. We can understand why the tasks of developing petroleum and gas industry are so clearly defined in the draft Fundamental Directions.

Our fuel and power problem is tied in with a purposeful technical policy that is being implemented in several directions. Raising the payoff from the subsoil, forcing assimilation of new deposits, and declaring a decisive struggle against mismanagement, we are placing more emphasis in our plans on issues that had been thought of as secondary before. In my opinion the time has come to turn our attention to another such problem--extracting fuel from combustible shale.

The total reserves of fuel in shale significantly exceed our total availability of all other forms of mineral fuel--natural gas, petroleum, and various grades of coal. But these reserves are still in the ground, and they are almost untouched.

Take as an example the western oblasts of the Ukrainian SSR. Deposits of what we call menilite shale are encountered almost everywhere at various depths within the limits of the inner zone of the Carpathian depression and the contiguous strip of folded Carpathians. Their total volume is almost 5 trillion tons, and the average concentration of combustible matter is within 12-15 percent. Even if we consider that not all menilite shale would be suited to industrial purposes and that we would only be able to extract and effectively utilize a third of the fuel reserves, even so, this would mean an additional 40-50 billion tons of comparison fuel.

Of course, this is no easy matter. Fuel shale, which has a low calorie content and which is hard to develop, does not play a significant role yet in the country's overall energy balance. Nor has Carpathian menilite shale found its master yet. Thus the geological ministries of the USSR and the Ukrainian SSR have still not received state assignments to explore and estimate the industrial reserves of fuel in the menilite shale deposits. Nor is the USSR Ministry of Petroleum and Gas Industry showing any special interest in developing these shale deposits. To make matters still worse, the procedures for extracting the fuel have still not been perfected as they should.

In the years when gasoline was very cheap, it was unprofitable to process menilite shale into fuel. Our Institute of Geology and Geochemistry of Mineral Fuels of the Ukrainian SSR Academy of Sciences proposed integrated processing of shale into scarce construction materials and into raw materials to be used in ceramics and chemical industry, in the acquisition of activated charcoal and Portland cement additives, and so on. The tar and gas fuel (a total of up to 80 kilograms per ton of shale) produced as by-products could have competed even at that time with improbably low-priced petroleum. Even a small facility was created in the Carpathians to work out the plant procedures for integrated shale processing.

But in recent years the world's power situation changed significantly. The price of petroleum increased considerably.

It is now becoming profitable to process menilite shale into fuel as well. However, this must be done at a modern level, with a consideration for environmental protection. Subsurface gasification or subsurface heat-treatment of menilite shale, as well as other methods borrowed from the best experiences of Soviet oilmen may be the only way to satisfy all requirements.

We must progress in long strides. After all, the reserves of natural gas and petroleum are being noticeably exhausted with growth in their consumption. And the problems of putting secondary fuel reserves into use are becoming increasingly more important. There is much work ahead. First of all we would need to develop the instructions for determining the condition and estimating the reserves of fuel in menilite shale, have these premises confirmed by the appropriate state authorities, and determine the assets and corresponding assignments for exploratory drilling.

I suggest that the need for expanding research on use of our republic's shale reserves must be reflected in the "Fundamental Directions".

11004
CSO: 1822

WASTE OF NATURAL GAS AT LITHUANIAN ENTERPRISES

Vilnius SOVETSKAYA LITVA in Russian 30 Nov 80 p 2

/Article by N. Shum, chief engineer, and S. Ryntsevich, senior engineer of the Lithuanian Territorial Inspectorate for the Supervision of the Use of Gas in the National Economy and supernumerary inspector of the Lithuanian SSR People's Control Committee: "Save 'Blue Fuel'"/

/Text/ The October (1980) CPSU Central Committee Plenum emphasized anew the need for the efficient use of energy resources, including natural gas. Its saving should be one of the primary tasks both of designers and scientists, who are involved in the supply of gas, and of every production worker.

But are the questions of efficient gas use always and everywhere solved correctly, practically? Unfortunately, they are not. For example, in 1979 the Lithuanian Territorial Inspectorate for the Supervision of the Use of Gas in the National Economy inspected the Shyaulyay Tannery of the El'nyas Association. During the check significant deficiencies were detected, the deadlines for their elimination were outlined jointly with the plant management.

A year passed. A recheck showed that the enterprises in three quarters of this year alone had consumed 94,000 m^3 of natural gas in excess of the set limits. What is the reason that the tanners are not keeping within the set rates of consumption of valuable fuel? The reason is simple--mismanagement. The recording of the heat generated by the boiler house and the returned condensate and the monitoring of the composition of the exhaust gas are absent at the enterprise. They are also not devoting attention here to the modernization of gas-consuming equipment, due to which the efficiency of the water heater does not exceed 82 percent. Questions of the economy of fuel and energy resources are not represented at all in the plan of organizational and technical measures.

This year fines have been imposed more than once on the plant for excessive gas consumption. It seems that the situation would have changed more rapidly for the better, if the fines had been imposed not only on the enterprise, but also on the officials who bear personal responsibility for the use of fuel and energy resources.

Such large consumers as the rayon boiler houses of the Kaunas heating systems are permitting mismanagement in the use of natural gas. Here the automatic equipment for regulating the combustion process, the instruments for monitoring the temperature of the exhaust gas and the deaerators are not working at practically all the water heaters. The analysis of the composition of the exhaust gas is made formally, no conclusions are drawn from its results. All this is also leading to a decrease of the degree of economy of the water heaters. As is known, the automation of the combustion process and the operation of water heaters via instruments save about 2-3 percent of the total amount of fuel being burned. It turns out that on the scale of the Kaunas heating systems the potential savings are 1-1.5 million m^3 of natural gas a year.

A number of enterprises of the republic have not fulfilled completely the decision of directorial organs on putting the technical certificates of fuel-consuming equipment in order. Thus, some enterprises of the Ministry of the Food Industry have not yet begun this work, which is creating difficulties in compiling a list of the gas burners which are in operation and have not undergone state tests in accordance with established procedure. Back in June of this year our inspectorate sent a letter to the republic Ministry of the Food Industry, in which the main shortcomings in the use of gas at enterprises of the sector were indicated and a request was made to take the necessary steps to eliminate them. However, so far no reply has been received.

The situation with the use of natural gas at the main enterprise of the Daugel'skiy Production Association of Construction Materials is also not improving. Here in 1979 the excessive consumption of fuel as against the approved specific rates was permitted. Instead of taking effective steps on regulating the heating service, the managers of the enterprise obtained from the Ministry of the Construction Materials Industry an increase of the rate of gas being used by 0.5 percent. Is this approach practical? Certainly not. Especially as for each type of boilers the rate of consumption of fuel for the generation of thermal energy was significantly overstated as it was.

The managers of the named enterprises need to correct the formed situation as quickly as possible so as not to let state property go up in smoke in the future.

7807
CSO: 1822

CENTRAL ASIAN COAL INDUSTRY SEEKS EXPANSION

Moscow PRAVDA in Russian 14 Dec 80 p 3

[Article by Leleko, general director, "Sredazugol'" Association, Tashkent: "'Close' Coal"]

[Text] The CPSU Central Committee's draft report to the 26th CPSU Congress poses the task of developing extraction of all forms of fuel, including coal.

The "Sredazugol'" Association is responsible for coal extraction in the Uzbek, Kirghiz, and Tajik SSR. However, its output capacity is not high enough, and each year about 3.7 million tons of solid fuel must be imported into Central Asia. This requires 60,000 rail cars which must then be returned empty.

Meanwhile the Soviet republics of Central Asia possess significant reserves of soft and hard coal, varying in grade from anthracite to coking coal. Geologists are certain that were explorations to be broadened, new deposits suited to open-cut development would be revealed. But even the explored deposits are sufficient to permit a dramatic increase in the scale of fuel extraction.

In the Uzbek SSR, the known reserves in the Angren lignite deposit total 2 billion tons. Estimates show that reconstruction of the "Angrenskiy" open pit would make it possible to attain up to 10-15 million tons per year; moreover another two mines with a capacity of half a million tons each could be built here as well. It would be suitable to create a mine at the Baysun deposit, which could produce 2 million tons per year. The geological nature of the deposits makes use of equipment highly effective. Baysun coal could provide enough fuel to support a thermal electric power plant with a capacity of not less than a million kilowatts. Following its reconstruction, the "Shargun'skaya" mine will increase its fuel production to 500,000 tons per year.

In the Kirghiz SSR, an open pit with an annual capacity of 4.5 million tons could be created at the Kara-Kiche deposit, and an open pit producing a million tons could be created at the Minkush deposit. I believe it would make sense to build a strip mine in Tsentral'nyy(Uzgenskiy) Rayon which has a 2 billion ton reserve of coking and high-calorie fuel coal. Coal regions that have already been developed--Kyzyl-Kiyskiy, Sulyuktinskiy, and Tash-Kumyrskiy--offer promise for further expansion.

In the Tajik SSR, a mine with an output capacity of 600,000 tons could be created at the Fan-Yagnob coking coal deposit, and an open pit with a capacity of half a million tons per year could be opened at the Ziddy coal deposit.

Thus by realizing these possibilities in the future, we can increase coal extraction to 22.5 million tons in the Uzbek SSR, 10.5 million tons in the Kirghiz SSR, and 1.5 million tons per year in the Tajik SSR.

The unit capital investments into erection of coal mining enterprises in Central Asia will be 1.5-2 times lower than the amount required for similar construction in Siberia. The investments would pay for themselves within 4-6 years.

Satisfaction of the solid fuel demand through local reserves will mean a considerable savings to the country's national economy. Multiple use of the deposits will produce an even greater impact. As an example about 4-6 million tons of procelain clay are extracted each year as a by-product from the Angrenskiy open pit. Of this amount, 320,000 tons are used in industry. The rest is dumped. The porcelain clay reserves of this deposit exceed 10 billion tons. And yet the Central Asian republics import 60,000 tons of kaolin per year at a cost of 36 rubles per ton. On the other hand the cost of extracting a ton of Angrenskiy porcelain clay is only 40 kopecks.

By building an enrichment plant in Angren with a capacity of 1.5-2 million tons of porcelain clay per year, we could completely support the demand of the Central Asian republics and southern Kazakhstan for this valuable raw material. It would also be suitable to hasten solution of the problems associated with multiple use of gypsum and other minerals extracted as by-products.

With the creation of the "Sredazugol'" Production Association, the profitability of local mines and open pits has risen noticeably, the structure of capital investments has improved, and the concentration of efforts at pilot plants and at especially important facilities has risen. As an example almost 1.5 times more housing was erected for miners in the present five-year plan than in the 9th Five-Year Plan, new children's preschool institutions and sanatoriums offering preventive treatment have been built, and water supply systems and other facilities have been put into operation. But many of the social issues are being resolved more slowly than we would like. Further specialization of construction would help to hasten their resolution. Thus creation of a large association in Oshskaya Oblast specializing in urban construction will considerably accelerate the rate of introduction of housing and cultural and personal facilities.

We must continue to improve the structure of coal industry management, and make the structure of marketing and other organizations compatible with it. Creation of the association is only the first step in forming an effective system. There are still many inconsistencies. While the coal mining enterprises of the three republics are all in the same association, the fuel is distributed by three different republic coal marketing organizations. As a result just in June of this year the countershipments of the same grade of coal totaled 24,800 tons in the Shurab--Akhunbabayevo rail section (the Ferganskaya TeTs), and 21,000 tons in the Kyzyl-Kiya--Western Kazakhstan section and in the Osh--Western Kazakhstan section.

Here is another paradox. Three coal inspection offices--in the Uzbek, Kirghiz, and Tajik SSR--service one association in Central Asia. I believe that a single inspection office could be created in place of the three. From my point of view the time has come to organize an appropriate planning institute and include "Sredazugol'" within it.

The unit capital investments into construction and development of our coal mines and open pits are relatively low. The Central Asian republics possess considerable labor resources, and their coal industry is now staffed by highly skilled specialists. The association's collective extracted about a million and a half more tons of coal than foreseen by the 10th Five-Year Plan, selling the product for almost 10 million rubles. It enjoyed an additional profit of almost a million rubles by improving the quality of the fuel and reducing extraction costs. Thus the effectiveness of developing local raw material deposits cannot be doubted.

Coal extraction by the most economical, completely mechanized open-cut method is growing according to plan in the association. One-third of the pool of mining and transportation equipment was renewed during the 10th Five-Year Plan. The new excavators, bulldozers, drilling rigs, and electric locomotives have two to three times the power of the old ones. Manual labor involved in construction and in maintenance of tracks in open pits has been minimized. Mechanized loading and extraction of fuel by mechanized complexes has been increased, and timber supports are being replaced by metallic and anchor supports at the mines.

Combined with a well conceived system for training and upgrading personnel and with constant improvement of the socialist competition, reequipment is producing a large impact. Sponsorship of weaker collectives by the best collectives has proven itself well in the association. The goal of such sponsorship is to improve the lagging collectives, to place them in the same league.

Considering the experience of "Sredazugol'", the mineral reserves available here, and the great national economic necessity of developing them, I suggest adding the following phrase to the draft "Fundamental Principles": "Accelerate development of coal industry in the Uzbek, Kirghiz, and Tajik SSR."

11004
CSO: 1822

UDC: 622.276.344

DRILLING ADDITIONAL WELLS INTO MULTIPLE PRODUCING ZONE RESERVOIRS

Moscow NEFTYANOYE KHOZYAYSTVO in Russian No 1, 1981 pp 23-29

[Article by R. N. Diyashev, TatNIPIneft': "On the Expediency of Drilling Additional Wells into Multiple Producing Zone Reservoirs"]

[Text] When planning the production development of oilfields, density of the well network is determined first and foremost by the average permeability of jointly exploited producing zones, which as a rule is close to the permeability of the base high-productivity producing zones of the reservoir. Therefore from the very outset low-permeability zones worked with the same injection and drive pressures as high-permeability zones prove to be in relatively worse conditions as regards distance between production and injection zones. This is one of the reasons for unsatisfactory extraction of crude oil from low-productivity reservoirs. The endeavor to bring them into active production is largely the reason for drilling additional wells when exploiting multiple producing zone reservoirs. Evaluation of the effectiveness of this measure is complicated by the possible interference with the principal wells by additionally drilled wells. Therefore one encounters in the published literature conflicting conclusions about their effectiveness.

It follows from the results of analysis of actual figures on sections of the Romashkinskoye field that interference does not reduce well production flow with a denser well network [1, 2]. This is due to the highly disjointed nature and inhomogeneity of the reservoir, substantial quantities of oil in low-permeability reservoirs and in zones with bottom water, as well as the simultaneous increase in the number not only of producing wells but also injection wells. In 1975, for example, with on-line additionally drilled wells comprising 25.5 percent of the total roster of wells in the Romashkinskoye field, production from these wells comprised 28.5 percent of total production of crude. Capital investment and current outlays per well when drilling to increase well network density are approximately half that when drilling in new fields. Savings from additional drilling of 2,390 wells in 1966-1975 totaled 34.3 million rubles [3].

At the same time, a conclusion was reached on the basis of earlier studies [4, 5] that substantial well interference occurs: for the Minnibayevskaya section ring zone only 20 percent of production from additionally drilled wells constitutes actual production increase, while the other 80 percent could have been obtained during the same period of time from the main-roster wells if additional wells had not been drilled. To confirm this conclusion, the authors of [5] estimated the interference factor, equal to 0.21 on the basis of the well-known Bavlinskiy experiment,

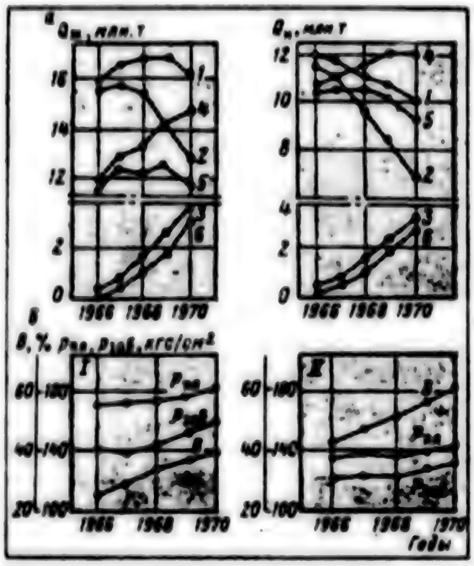

Figure 1. Change in Production Performance Figures for Different Sections of the Romashkinskoye Field.

Key:

a -- production flow of fluids $Q_{ж}$ and crude $Q_{н}$

1, 2, 3 -- overall yield from wells of the main and auxiliary rosters respectively, Minnibayevskaya section

4, 5, 6 -- same, for wells in the Abdrakhmanovskaya section

b -- degree of water in produced fluids B, average formation pressure $p_{пл}$ and bottom-hole pressure $p_{заб}$, Minnibayevskaya (I) and Abdrakhmanovskaya (II) sections

---

and also presented figures on production dynamics for the wells of the Minnibayevskaya and Abdrakhmanovskaya sections during the years of intensive drilling of additional wells (Figure 1a).

The relationships contained in Figure 1a indicate a decrease in yield of fluids and crude oil from primary-roster wells as production increases from additionally drilled wells. An analysis of principal development and production figures on the Romashkinsoye field performed in 1979 by the All-Union Oil and Gas Scientific Research Institute established that in spite of the general conclusion of the appropriateness of drilling additional wells, the interference factor for the Al'keyevskaya section is 0.4 with a well network density of 30-35 hectares per well, that is, actual production increase is only 40 percent of yield from additionally drilled wells. With a density of 25 hectares per well, the factor is 0.2. In the opinion of Academician A. P. Krylov, an increase in density of the well network and decrease in per-well oil reserves can do considerable damage to the petroleum industry [6].

In this article an attempt has been made to estimate the potential interference by main-roster and additional wells on the basis of oilfield figures for multiple producing zone reservoirs, including inhomogeneous beds. Obviously no great doubts are entertained regarding the presence of well interference for single-producing zone reservoirs.

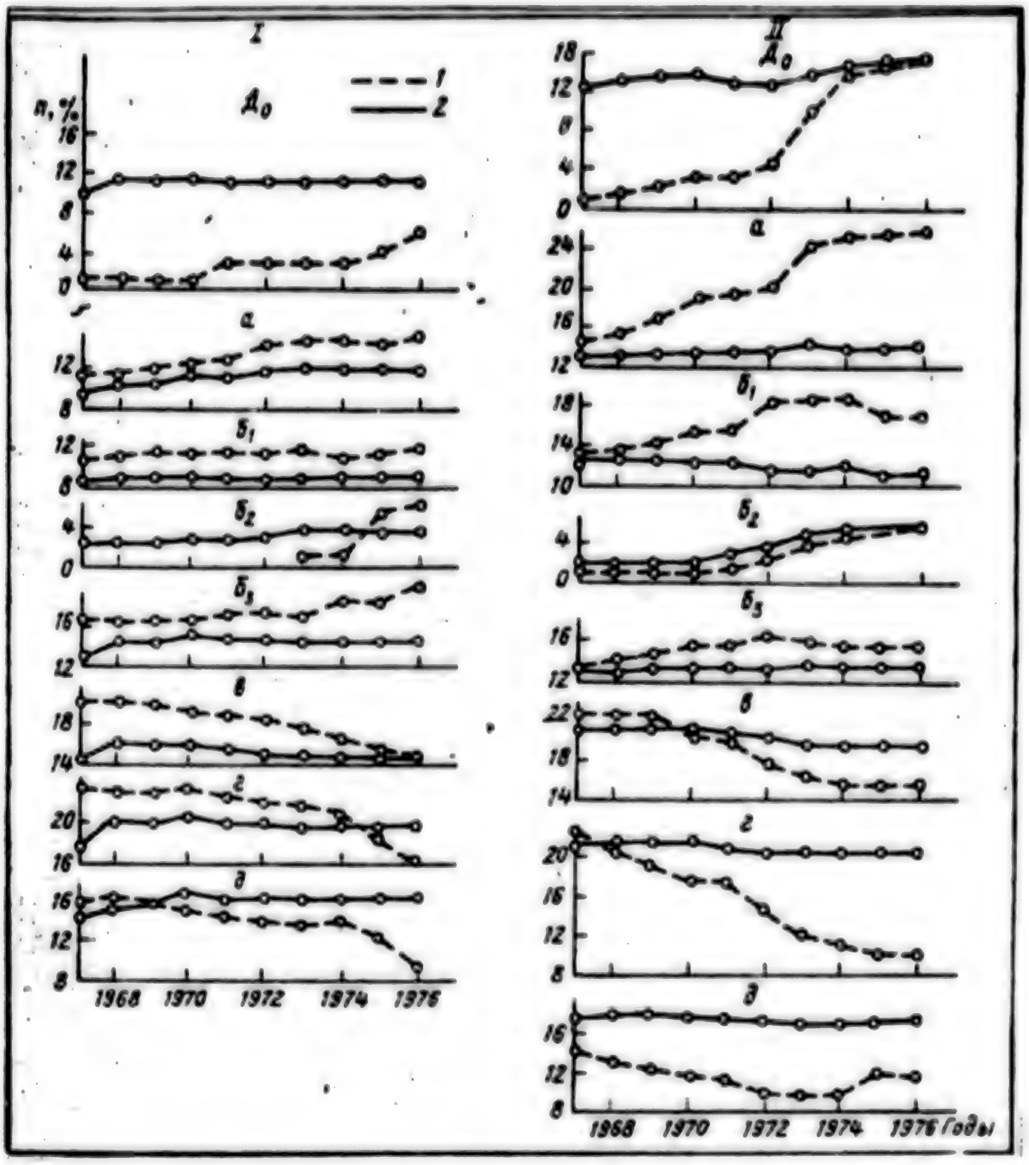

Figure 2. Change in the ratio of the percentage share of zones n tapped by perforation (1) and drilling (2), injection (I) and producing (II) wells at the center of the Minnibayevskaya section.

Let us examine the conclusions reached by the authors of [4, 5], in conformity with which the calculated interference factor of 0.2 for the Minnibayevskaya section is confirmed by actual figures on production decline from primary-roster wells. Figures 2 and 3 show change in the number of producing zones tapped by drilling and perforation, as well as distribution of increasing production of fluids and crude oil zone by zone in the central part of the Minnibayevskaya section. Almost all primary-roster wells were drilled here in 1960 in conformity with the plan, wells which tapped 383 producing zones in production wells and 285 in injection wells. A total of 320 and 213 zones respectively were perforated. This well roster remained practically unchanged up to 1970. Drilling of additional wells began more intensively in 1971-1973 (see Table 1), which increased the number of tapped zones.

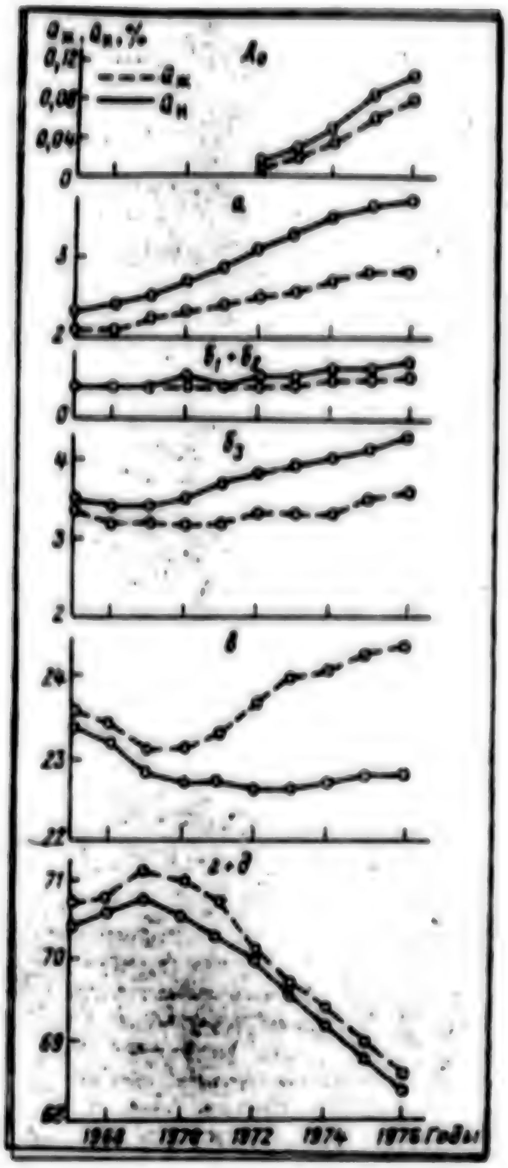

Figure 3. Change in the ratio of the percentage share of cumulative yield of fluids $Q_{\text{ж}}$ and crude $Q_{\text{н}}$ from producing zones in the central part of the Minnibayevskaya section

It is evident from the table that with an increase in the number of zones tapped by drilling, the number of perforated decreases. This is due not only to the fact that lower, areal spread, more productive zones already released by this time are not perforated in additionally drilled wells, but also to the fact that upper, low-productivity zones of discontinuous occurrence are also absent in the well section. Therefore drilling of new wells and perforation of low-productivity zones was not compensating for the number of high-productivity zones sealed off after being worked out.

In 1966-1970, the years for which production dynamics are analyzed in [4], the most productive zones c, d, and e were perforated for the most part. Low-productivity zones E_0, a, and B_{1-2} were tapped by a smaller number of wells and perforations due

Table 1.

Years	Number of Producing Zones in Production Wells		Number of Producing Zones in Injection Wells	
	Tapped by Drilling	Perforated	Tapped by Drilling	Perforated
1968	389	301	289	215
1969	398	287	289	216
1970	398	257	298	220
1971	426	267	313	223
1972	461	264	331	231
1973	524	253	341	235
1974	550	229	341	215
1975	575	230	341	218
1976	576	227	341	199

Table 2.

Indices	Section	
	Abdrakhmanovskaya	Chishminskaya
Share of additionally drilled wells producing oil in overall roster as of end of 1979	0.797	0.456
Density of well network, hectares per well	21.4	34.1
Conductivity of beds kh, D·cm	647	237
Oil-saturated thickness, m	15.4	4.7
Factor:		
discontinuity	5.3	1.6
arenosity	0.54	0.69
cohesion	0.21	0.16
Porosity, %	19.2	20.6
Permeability, md	420	504

to discontinuous area distribution. For example, in 1967 zone E_0 accounted for 10 percent of the total number of zones tapped by drilling and only 1 percent of perforated. Production of fluids and oil from the zones is distributed in like manner: approximately 95 percent was obtained from high-productivity zones c, d, and e. This pattern is typical for the entire Minnibayevskaya section.

There is also no question about interference when drilling wells on tapping high-productivity zones with area distribution (the area propagation factor for zones c, d, and e is 74, 97 and 70 percent respectively) and which represent a producing part of the reservoir. In the example being considered, however, the percentage share of perforation-tapped high-productivity zones c, d, and e did not change or changed little in the period 1966-1970 (see figures 2 and 3). Therefore a decline in production of fluids and crude oil from primary-roster wells is due not to interference but to a considerable degree to technical factors: limited facilities for separation and treatment of oil and gas, and a lack of high-output pumps, which reduced production of crude accompanied by large amounts of water. This is confirmed by an increase in formation and bottom-hole pressure and by a reduction in the rate of change in water content of the produced fluids (Figure 1b).

Table 3

Years	Drilling of Wells			Existing Wells		
	Producing		Injection	Producing		Injection
	Primary Roster	Supplementary Roster		Primary Roster	Supplementary Roster	
Prior to 1965	17	-	1	17	-	1
1965	51	-	9	65	-	9
1966	4	-	3	72	-	3
1967	1	-	-	73	-	4
1968	-	-	1	73	-	6
1969	-	4	1	73	4	9
1970	-	-	-	73	4	11
1971	-	4	-	73	7	11
1972	-	8	-	64	16	12
1973	-	15	-	60	28	15
1974	-	1	-	49	28	15
1975	-	3	-	50	32	15
1976	-	7	-	46	35	15
1977	-	5	-	41	43	16
1978	-	1	-	37	42	15
1979	-	-	-	34	40	13

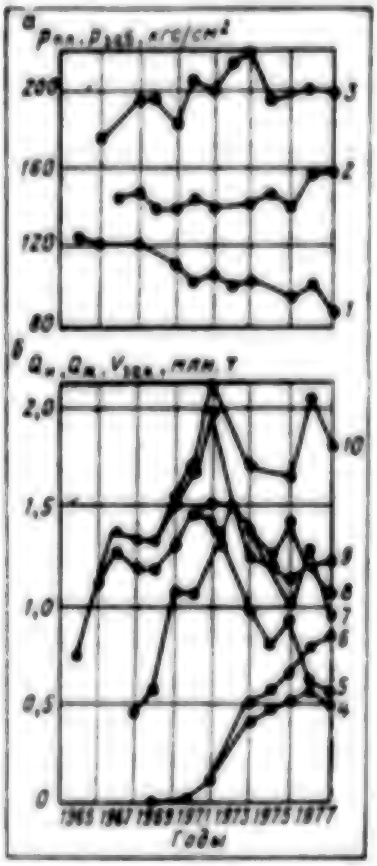

Figure 4. Change in pressures (a) and yields (b) in working an area of the Chishminskaya section.

Key to Figure 4 on preceding page:

1. Average bottom-hole pressure in producing wells
2, 3. Average formation pressure in producing and injection zone respectively
4, 5, 7. Crude oil yield from supplementary roster, primary roster, and overall yield respectively
6, 8, 10. Yield of fluids from supplementary roster, primary roster wells and overall production respectively
9. Water injection

During the period under review, as a result of drilling additional wells there was an increase in the percentage share of low-productivity zones tapped by drilling and perforation, and production from these zones. A decline in the production of fluids and crude oil during this same time in the Abdrakhmanovskaya section was due to the same causes. In this section the rate of production decline from the primary wells is less than in the Minnibayevskaya section. This is consistent with a less marked increase in formation and bottom-hole pressure, as well as with the character of change in percentage of water produced in comparison with the Minnibayevskaya section, that is, a substantial role of technical factors is evident (cutback in yield from high water-content production) rather than interference in a crude oil production decline from primary wells.

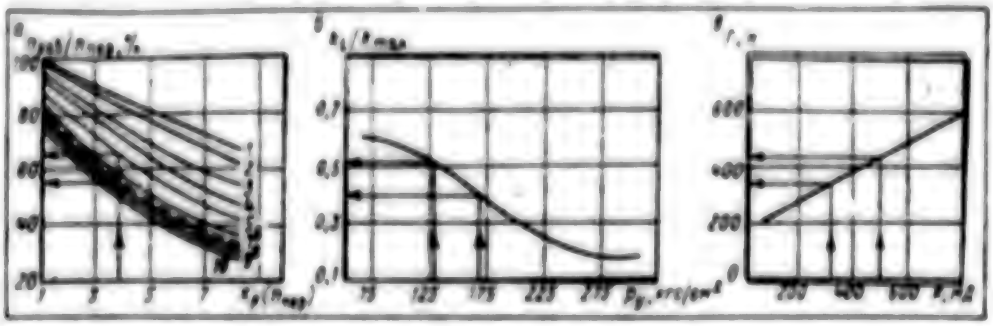

Figure 5. Experimental relationships of combined operation of heterogeneous producing zone.

Key:

a. Percentage share of producing zones $n_{раб}$ of perforated $n_{пер}$ in relation to structure separation factor K_p
b. Change in ratio of permeabilities of producing k_i and most highly permeable k_{max} zones in reservoirs in relation to injection pressure P_y
c. Relationship between radius of production coverage zone Γ and zone permeability k
1-10. 315, 265, 240, 185, 165, 140, 120, 115, 85, 65 kg/cm^2 respectively for injection pressure at injection wellhead.

Taking the above results into account, when drilling additonal wells one should first and foremost estimate the advisability of putting into production reserves contained in low-productivity zones which are not being exploited together with high-productivity zones. There is no doubt that it is effective to bring them into production in highly-developed oilfield sections, and therefore drilling of additional wells is inevitable.

Let us examine change in relative average flows of fluids and crude oil from primary and supplementary well rosters in relation to the ratio of the number of additional wells to the primary roster ($N_Д/N_0$) in the Abdrakhmanovskaya and Chishminskaya sections, which differ in geologic conditions (Table 2).

We shall assume that interference increases with an increased $N_Д/N_0$, is more strongly marked in sections with a denser well network, and declines with a rise in the reservoir discontinuity factor and worsening of permeability of producing zones. For clarity of representation we shall arbitrarily assign to the primary roster all wells drilled prior to 1974. We shall examine wells additionally drilled only in the period 1974-1979.

In the Abdrakhmanovskaya section, with an increase of $N_Д/N_0$ the rate of decline in relative yield drops off and shows a tendency to stabilize. This attests to the absence of interference between the primary and supplementary well rosters. A somewhat higher rate of decline in crude oil yield from primary-roster wells is due to the later stage in their production life and a substantial increase in water content of the produced fluids. For the Chishminskaya section the rate of decline in yield is appreciably greater than in the Abdrakhmanovskaya. And the yield drops off more rapidly for additionally drilled wells than on primary roster wells. Consequently little effectiveness is obtained by drilling such wells under the conditions of the Chishminskaya section.

We shall examine the development status of an area with a high-continuity reservoir in the Chishminskaya section, with the primary well network drilled in 1965. Drilling of additional wells began in 1969 (Table 3). For the area as a whole $N_Д/N_0=0.66$. As of 1 January 1980 cumulative crude oil production from wells of the primary Q_0 and supplementary $Q_Д$ rosters comprised 16.9 and 3.3 million tons respectively, $Q_Д/Q_0 \approx 0.2$.

Analysis of the development figures for this area indicates that increase in production of fluids and crude oil from additionally drilled wells is accompanied by a rapid production decline from primary roster wells (Figure 4). In contrast to multiple-zone pools, with drilling additional wells in this area there is a drop in formation pressure in the production zone, with an increase of depression on the producing formation as a result of an even more rapid bottom-hole pressure drop in producing wells. Production figures worsen in spite of a simultaneous increase in volume of injection and formation pressure in the injection zone.

The above confirms not only the existence of considerable well interference, but also a significant decrease in crude oil reserves per well and an increase in the rate of crude oil withdrawal in the examined area of a single producing zone reservoir section of the Romashkinskoye field. A consequence of this is a short period of well production to the point of going fully to water, with subsequent well shutdown. Under conditions of multiple producing zone reservoirs, these wells would have been tapped to low-productivity zones and would continue producing. For example, in the area under examination, by the end of 1979 40 primary and 7 additional wells had gone fully to water and were shut down. They are distributed as follows on the basis of duration of production:

Duration of production, years	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16
wells:								
primary roster	-	-	1	9	13	9	6	2
supplementary roster	2	4	1	-	-	-	-	-

Obviously with a well physical service life of 25-30 years, such a short period of production on the whole does not improve technical-economic indices. Therefore under conditions of exploitation of reservoirs with low discontinuity factors, not only increasing the well network density but also increasing the rate of drive as a result of increasing injection pressure should be conducted following thorough technical-economic substantiation.

Studies indicate that interference between primary and supplementary roster wells, and consequently the effect of drilling to increase well network density depend to a considerable degree on how discontinuous a reservoir is and difference in reservoir characteristics of simultaneously producing zones. Drilling of additional wells is inevitable when developing a discontinuous multiple-zone reservoir with a single network of wells. In practice this is done in order to bring into production low-productivity zones, isolated lenses and oil pools not being drawn off through the primary network.

Additionally drilled wells do not interfere with the primary roster wells and provide an increase in the oil production factor. At the same time drilling of additional wells into the base producing zones of a multiple-zone reservoir or into little-discontinuity reservoirs originally drilled in a grid corresponding to the productive characteristics of the reservoir producing zones, is not warranted.

For a quantitative evaluation of additionally drilled wells, we shall utilize the results of statistical processing of a large volume of actual figures on investigated wells, as well as special oilfield experiments in the Romashkinskoye field (Figure 5). With stringent water drive, bringing producing zones into active production is dependent primarily on employing water injection, and therefore the curves in Figure 5a, b are plotted on the results of investigation of injection wells.

The curves in Figure 4a indicate that not all producing zones are exploited in a multiple-zone reservoir. The number of producing zones increases with an increase in injection pressure. Full encompassment of all perforated zones of a multiple-zone oilfield is not achieved, however. The curve in Figure 4b enables one to estimate the relative permeability of nonproducing zones. On the basis of the known permeability of the best producing zone in the reservoir and the ratio of permeabilities, one determines that permeability below which formations do not take water with combined injection. From the curve in Figure 4c one obtains the radius of a well's zone of influence or well grid density at which nonproducing zones can be brought into production.

This relationship was obtained from materials of investigation of 105 sets of production conditions at 42 wells in the Romashkinskoye field and has been confirmed by actual figures on response to water injection by producing wells situated at various distances from the injection zone.

Conclusions

1. The results of a critical analysis of published data, as well as study of the dynamics of drilling and production on multiple producing zone reservoirs, on the example of certain sections of the Romashkinskoye field, indicate that additional wells are drilled primarily to bring low-permeability producing zones into production, as well as individual isolated reservoir zones which are not being tapped by the primary well grid.

2. Additionally drilled wells essentially cannot interfere with the primary roster wells. A decline in production of fluids and crude oil from the primary roster wells is due chiefly to the influence of technical factors.

3. In areas with little discontinuity of producing zones, intensification of exploitation by drilling additional wells not only reduces production of crude from primary roster wells but also shortens their production life in comparison with their potential service life based on physical wear and tear and subsequent shutdown.

BIBLIOGRAPHY

1. Sukhanov, N. A.; Morozov, A. A.; and Shavaleyev, A. M. "Drilling Additional Wells for the Purpose of Intensification of Exploitation of the Severo-Al'met'yevskaya Section," TR. TATNIPINEFTI, No 26, Kazan', 1974, pp 206-210.

2. Muslimov, R. Kh. "Effectiveness of Drilling Additional Wells in the Romashkinskoye Field," NEFTYANOYE KHOZYAYSTVO, No 11, 1976, pp 22-26.

3. Fattakhov, B. Z., and Muslimov, R. Kh. "Methodological Problems of Optimization of Well Grid Density," NEFTYANOYE KHOZYAYSTVO, No 7, 1978, pp 25-29.

4. Nikolayevskiy, N. M.; Dorokhov, O. I.; Zhechkov, A. I.; et al. "Technical-Economic Effectiveness of Operation of Additional Oil Wells in the Romashkinskoye Field, Taking Their Interference Into Account," "Ekonomika neftyanoy promyshlennosti" [Economics of the Petroleum Industry], Moscow, VNIIOENG, 1972, pp 24-28.

5. Dorokhov, O. I., and Nikolayevskiy, N. M. "Economic Evaluation of Interference of Production Wells During Oilfield Development," "Ekonomika neftyanoy promyshlennosti," 1975, pp 18-23.

6. Krylov, A. P. "O[illegible] [illegible]d Development Rate," EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA, No 1, 1980, Novosibirsk, Nauka, Sib. otd., pp 66-74.

COPYRIGHT: Izdatel'stvo "Nedra", "Neftyanoye khozyaystvo", 1981

3024
CSO: 8144/0606

extensively develop scientific and applied research on progressive, highly economical peat processing procedures. Of special importance is the production of crude and modified waxes, new molding compounds for precision casting, various chemical compounds used in the acquisition of new materials, medical preparations, growth-promoting substances, dyes, proteinaceous and nutrient substances, granulated complex fertilizers, and the ingredients of household chemicals; peat products are also used in polygraphy, in light industry, and in the manufacture of cosmetics.

It is precisely this sort of integrated and full use of peat, and creation of low-waste and wasteless peat processing procedures, that the published draft Fundamental Directions propose. Research our institute has conducted and is presently continuing, making it possible to arrive at a unified classification of peat and to determine the basic directions of its processing into new products and materials, acquires special importance in light of the tasks posed by this document. The accumulated data have promoted development of our ideas of peat as a rich natural "treasurehouse" of various chemical raw materials, capable of becoming the source of valuable chemicals. Owing to the efforts of the institute's scientists, synthesis of many of them is already either an industrial reality, or it is in the experimental industrial or experimental stage. The institute has developed simple processing schemes and methods for isolating certain ingredients of peat, and thus the scientific and practical foundations for organizing new production sectors has been created.

One of them is wax industry using bituminous peat. A plant producing such wax has already been in existence for a number of years. It is now being reconstructed in order to triple its output capacity. Construction of a modified wax shop, a shop producing molding compounds for precision casting, a shop producing wax-based lubricants, and a consumer goods shop has been planned.

Inasmuch as only those substances which are soluble in organic solvents are used in the acquisition of wax, the wastes of this production operation can serve as the raw material for production of other valuable materials to include peat briquettes, alkaline peat reagents for activated charcoal, and fertilizers. The methods our institute has developed are making up the foundation of such multiple use of peat for the needs of the national economy.

What I am trying to say, it is important to emphasize, is not only that it would be profitable to utilize all peat components, but also that we can acquire many very scarce, sometimes irreplaceable substances, occasionally having unique properties. Chemistry and other industrial sectors have a very great need for these substances.

All of the research our institute's collective has conducted in peat chemical processing persuasively demonstrates the suitability of such processing and significantly broadens the potentials of peat as a natural raw material. This is why we are planning to concentrate our efforts in the 11th Five-Year Plan on finishing the developments and placing them in experimental industrial testing and introduction. In particular, we need to broaden research aimed at creating the scientific principles of new production procedures which would significantly decrease peat consumption and permit production of a number of materials now being acquired from petroleum. In my opinion this is precisely the way we can solve the problem of making sensible use of peat resources, with a consideration for their functions in nature.

organomineral fertilizer, and other materials. Creation of such an enterprise making multiple use of peat is dictated by the demand of the republic's national economy for its products and for high economic effectiveness of this production operation.

Naturally, introduction of integrated and wasteless peat processing could proceed much faster and produce a more-tangible impact, were all ministries and departments using this highly valuable raw material to take part. However, I am forced to admit that we have not yet surmounted the psychological barrier between traditional and new ideas about peat. Bureaucracy itself is a sizable obstacle here as well. State planning, consideration of scientific achievements in integrated peat processing in the current and long-range plans, and participation of the ministries and departments in assimilation of the new production processes acquire especially important significance under these conditions. This is the demand of the interests of the country's national economy, and of thrifty use of natural resources, a task clearly worded in the CPSU Central Committee's draft report to the 26th CPSU Congress, "The Fundamental Directions of Economic and Social Development of the USSR in 1981-1985 and in the Period to 1990."

11004
CSO: 1822

FUELS

COAL MINERS WANT MORE SUPPORT

Moscow TRUD in Russian 18 Jan 81 p 2

[Article by N. Mokrishchev and I. Frolov: "More Coal for the Country: Miners Seek Reserves"]

> [Text] "Krasnolimanskaya" Mine of the "Dobropol'yeugol'" Production Association is one of the largest in the Donets Basin. Its collective always fulfills its plans and socialist pledges. "Krasnolimanskaya" miners completed the 10th Five-Year Plan 3 months ahead of schedule. They mined 450,000 tons of coal in excess of the plan. Today the mine is a highly mechanized, modern enterprise. More than 98 percent of all the work is done by machines and mechanisms. The collective was awarded the Order of Lenin for its successes.
>
> New tasks were posed to the miners by the CPSU Central Committee's draft report to the 26th CPSU Congress, "Fundamental Directions of Economic and Social Development of the USSR in 1981-1985 and in the Period to 1990." The ways to complete these tasks more successfully were discussed at a workers' meeting of the mine collective.
>
> The meeting's participants included Ukrainian SSR Minister of Coal Industry N. K. Grin'ko, chairman of the republic's trade union committee V. I. Shevtsov, and first secretary of the Dobropol'eye City Party Committee I. I. Bessarab.

Despite the complexities created by the enterprise's reconstruction, "Krasnolimanskaya" Mine workers surpassed the sector averages for longwall productivity and tunneling rate by more than two times.

In the 11th Five-Year Plan, the mine collective faces the task of maintaining the coal extraction volume it achieved. This is not going to be easy because the geological conditions become more complex with every year, and the seams are more difficult to work. How will they complete their task? Where will they find new production reserves? How would they best utilize the accumulated experience? All speakers discussed these questions at the meeting. Special attention was turned to developing socialist competition.

"On the whole the collective's indicators are not bad," said mine director V. Vereshchagin, "but were we to analyze plan fulfillment in every section and team we would see our shortcomings right away. The mine as a whole completed its 10th Five-Year Plan by 24 September. But two sections were unable to complete their assignments: They mined 150,000 tons of coal less than planned. This indicates that the administration and the mine committee are not disseminating the experience of the best workers very well, and they are not creating conditions for shock work for all competitors."

Many of the problems encountered by "Krasnolimanskaya" miners are also troubling other collectives in the sector.

"Each year Donets Basin miners work on deeper horizons," said team leader V. Ignat'yev, "and the geological conditions in the mines are getting more and more complex. But the equipment remains the same. It has now been 15 years that we have been working with the same series-produced mechanized complex, the KM-87."

Tunneler V. Ivanov emphasized the importance of reequipping coal industry in his statement. Using a 1-LTP-80 belt conveyer, N. Stepin's team achieved a record mine tunneling rate. Unfortunately only one unit of this conveyer, which makes work much easier, was manufactured, and there is no idea when it will go into series production. Such also is the fate of the "Soyuz-19" tunneling complex, which has triple the productivity of the series-produced combine of the Yasinovataya Machine Building Plant. The USSR Ministry of Coal Industry and the Ministry of Heavy and Transport Machine Building must do everything they can in the 11th Five-Year Plan to hasten introduction and series production of progressive mining and tunneling machinery.

Failure to complete measures in the plan for the collective's socioeconomic development has an unfavorable influence upon the morale of the people and, consequently, on their creativity. Finishing reconstruction of the mine was one of the items in three five-year plans in a row. But the builders failed to complete the assignment from one year to the next. Three general contractors were replaced at the mine since 1967, but this has not helped. Out of 60 million rubles allocated for reconstruction, only 42 million have been spent as of the beginning of 1981. In this connection engineer G. Kokovkin suggested adding a statement, to Section VII of the "Fundamental Directions", calling for higher responsibility of general contractors for prompt and integrated commissioning of facilities.

Other participants of the meeting also devoted considerable attention to social problems. Criticism was directed in the statements mainly toward the ministry and the association. I. Shcherbina, chairman of a section trade union committee, said:

"I am ashamed to admit it, but 'Krasnolimanskaya' Mine, one of the best in the basin, does not have its own Pioneer camp or vacation base. Housing is being built very slowly here as well. Of course, we ourselves are guilty for a lot of this, and we could have built much of what we need on our own, but we cannot always solve our construction material problems. Special emphasis should be placed in the draft report of the CPSU Central Committee to the 26th CPSU Congress on the idea that collectives building social, cultural, and residential facilities through their own resources must be provided all assistance possible."

The participants of the meeting vowed that the mine collective will apply all effort to complete the assignment set by the party for the 11th Five-Year Plan.

11004
CSO: 1822

FUELS

BRIEFS

WAGES STREAMLINED--Miner P. Momot asks: "Wages paid specifically per ton of coal mined have been decreasing constantly at our mine, and the proportion of all sorts of bonuses and other payments is growing. The bonus payment system is so complex that even a specialist finds difficulty in understanding it. Can we not increase the role of set wage rates, and simplify the bonus payment system?" The minister of coal industry replies: "A number of steps aimed at stimulating labor on the basis of the end results--that is, the number of tons mined--are being implemented by the Ministry of Coal Industry in order to raise the proportion of wages paid specifically for coal mining volume at the mines. As an experiment, wages paid specifically per ton of mined coal have been increased by 8.7 percent and pay for jobs not directly associated with mining has been reduced at a number of mines. This experiment will spread to other mines in the 11th Five-Year Plan, including 'Krasnolimanskaya'." [Text] [Moscow TRUD in Russian 18 Jan 81 p 2] 11004

COMPETITION RULES QUESTIONED--Coal combine machine operator G. Korotkov comments: "The percentage by which the plan is surpassed is treated as the main factor when summarizing the results of the socialist competition. This causes situations of the following sort to arise. Consider two teams working in the same conditions. The plan of one calls for a thousand tons per day, while that of the other requires 3,000. Let us assume that the first team produces 1,200 tons, while the other produces 3,050. The advantage is given to the first collective, even though the second produced significantly more coal. In my opinion this is unjust. The socialist competition should encourage us to achieve the greatest end results--production of the largest amount of outstanding quality product. This premise should be reflected in the 'Fundamental Directions'." [Text] [Moscow TRUD in Russian 18 Jan 81 p 2] 11004

WAGE DIFFERENCES DISPUTED--Mining foreman N. Grigorenko comments: "'Rodinskaya' Mine is situated next to 'Krasnolimanskaya'. We work in identical mining and geological conditions, we work the same coal seams, and we extract the same grade of coal. But our wages differ. For example the average wages paid in December to members of Grishchenko's team in 'Krasnolimanskaya', which extracted 1,200 tons of coal per day, were 396 rubles. But the average wages paid to members of Romanchenko's team at 'Rodinskaya' who extracted 1,065 tons per day, were 669 rubles. The reason for this is that 'Rodinskaya' coal is classified as coking coal, qualifying it for a substantial bonus, while coal from our mine is classified as fuel coal--that is, cheaper coal. How can this be, if the coal comes from the same bed and bears the same grade? I believe that the existing system for evaluating extracted coal should be reviewed." [Text] [Moscow TRUD in Russian 18 Jan 81 p 2] 11004

END

END OF FICHE

DATE FILMED

3/4/81